



BRITISH ENTOMOLOGY;
BEING
ILLUSTRATIONS AND DESCRIPTIONS
OF
THE GENERA OF INSECTS

FOUND IN
GREAT BRITAIN AND IRELAND:
CONTAINING
COLOURED FIGURES FROM NATURE
OF THE MOST RARE AND BEAUTIFUL SPECIES,
AND IN MANY INSTANCES
OF THE PLANTS UPON WHICH THEY ARE FOUND.

BY JOHN CURTIS, F.L.S.

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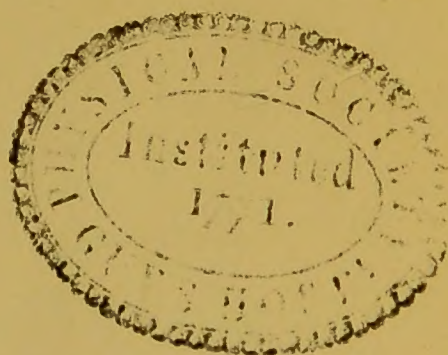
VOL. II.
COLEOPTERA, PART II.

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212. <i>Viscum album</i> maſ.	562	248. <i>Hesperis inodora</i>	435
213. <i>Listera cordata</i>	634	249. <i>Malaxis Loeselii</i>	582
214. <i>Galeopsis versicolor</i>	116	250. <i>Erica cinerea</i>	35
215. <i>Fragaria vesca</i>	690	251. <i>Hippuris vulgaris</i>	506
216. <i>Convallaria multiflora</i>	278	252. <i>Hypnum alopecurum</i>	111
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218. <i>Prunus Cerasus</i>	212	254. <i>Astragalus glycyphyllos</i>	208
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220. <i>Carlina vulgaris</i>	642	256. <i>Lycoperdon Bovista</i>	355

Folio.

- 11 *line 26 add* Marsh. Ent. Brit. 358. 1.
43 *line 39 for* Lord Sidney *read* Lord Sydney.
111^b *5th line from the bottom, for 4 read 3 distinct transformations.*
112 *line 2 and 5 for* ZONITIS *read* CONOPALPUS.
line 4 for Zonitis præusta Fab., *read* Conopalpus flavicollis Gyl.
Obs. All the dissections were made from the species figured.
127 — This line shows the length of the *Cassida* represented, which was omitted in the plate: it is more than one-fifth the length of the magnified figure.
215^b *line 38 for* longicornis Fab. *read* longicornis Steph.
216^b *for* The Dwarf Orchis *read* An Orchis, (probably *maculata*) was in flower, &c.
232 Mr. Davis has lately informed me that he finds *Mezium sulcatum* as late as the middle of October, that it is frequently found amongst old waste paper in book-sellers' warehouses, and that he discovered one in an old specimen of *Dyticus*, on pulling it to pieces.
244^b *after line 27 insert—II. With the club serrated internally.*
247^b *line 11 dele ante—*
275 *Saperda Atkinsoni* was taken in Mr. Atkinson's garden at Grove-end, Paddington, in 1827.
347^b *line 27 for* Eumolps *read* Eumolpi: I allude to the genus *Lamprosoma* of Kirby.
582 Mr. Henry Denny, of Leeds, has communicated the following observations on the supposed Larvæ of *Clythra 4-punctata*: "I suspect they inhabit Ant-hills. In a large nest of the *Formica rufa* which I procured from Kirkstall Woods, and kept in a box prepared for the purpose, I several times saw amongst the little bits of sticks, straw, and various substances of which these insects form their nests, a larva that appeared to be in a sort of case, formed of other materials, within which it could draw itself when alarmed. In a short time these disappeared, and some weeks after I found 3 or 4 specimens of the *Clythra 4-punctata* crawling in the box, evidently but just emerged from the pupa, as the elytra were quite soft and pale."
606 It was in June, not July, that Mr. Walton took the *Paramecosoma* on the banks of the Nidd, where I had the pleasure of seeing it alive this year in his company.
723 *last line but 1 for 393 read 392.*



HOLOPARAMECUS DEPRESSUS.

ORDER Coleoptera.

FAM. Corticaridæ Curt.

Type of the Genus, H. depressus Curt.

HOLOPARAMECUS Curt.

Antennæ nearly as long as the head and thorax, inserted before the eyes, clavate, slightly pubescent and 9-jointed, basal joint subglobose, 2nd and 3rd long, of equal length, 4 following ovate, the 7th being a little the stoutest, 8th and 9th forming a compressed club, the former ovate-truncate, the latter orbicular, acuminate at the inner angle (6).

Labrum semiorbicular, but slightly bristly (1).

Mandibles elongate-trigonal, bifid at the apex, with a broad membranous internal margin (2).

Maxillæ subrhomboidal, terminated by a small bristly internal lobe and a larger external incurved one hairy at the apex. *Palpi* short, triarticulate, basal joint obovate, truncated obliquely, 2nd somewhat cup-shaped, 3rd long elliptical, a little attenuated (3).

Labium, &c. undiscovered.

Head broad trigonal: eyes small, lateral, placed at the base of the head. Thorax depressed somewhat obcordate-quadrate, concave before, straight behind, with a channel on each side, near to the basal angles: scutellum none or concealed. Elytra subelliptical, narrowed a little at the base and apex. Wings ample. Legs short: trochanters slender: thighs inflated, tibiæ simply clavate: tarsi rather elongated, slender and triarticulate, basal joint short, stoutest in the anterior; 2nd the smallest, 3rd the longest and slenderest: claws small (5, a fore leg).

DEPRESSUS Curt. *Ent. Mag.* v. 1. p. 186.—*Guide, Gen.* 239. 1.

Elliptical, depressed but a little convex, shining testaceous: eyes black, granulated: thorax broader than the head, indistinctly punctured, a transverse impressed line near the base, which is narrowed, with a sharp longitudinal channel on each side, terminating in a fovea towards the disc, the basal angles acute and the margins slightly elevated: elytra broadest a little below the base, obscurely and sparingly punctured, with a channel on each side the suture: length $\frac{1}{2}$ a line.

In the Author's Cabinet.

THIS very minute insect recedes from the typical groups of Coleoptera, having only nine-jointed antennæ and triarticulate tarsi; it is, however, undoubtedly allied to Corticaria as well as to Latridius (pl. 311.), with which it accords in the shape of the antennæ and in the numerical structure of the tarsi. On a former occasion I stated an opinion that Holoparamecus might be the means of connecting the Corticaridæ with the Scydmaëni, an affinity which appears to be further strengthened by the discovery of the genus Eutheia.

I took a single specimen of *Holoparamecus depressus* many years since running up the outside of a flour-mill in Norfolk, which led me to believe that it fed upon grain; but I have since found several specimens amongst small pieces of decayed wood and bark that came from Mexico I believe, and this renders it probable that it may live in the crevices and under the bark of trees, and also that it is, like many other insects, an imported species.

The Plant appears to be *Thlaspi arvense* ('Treacle Mustard).



PARAMECOSOMA BICOLOR.

ORDER Coleoptera. FAM. Corticaridæ?

Type of the Genus, P. bicolor Curt.

PARAMECOSOMA Curt. in *Ent. Mag.*

Antennæ inserted before the eyes, as long as the head and thorax, pubescent, capitate and 11-jointed, basal joint stout and ovate, 2nd smaller and ovate, 6 following slender, somewhat obovate, 3rd the longest, 5th nearly as long, 7th rather longer than the 6th, 3 terminal joints dilated and compressed, 9th somewhat obtrigonal, 10th broader, cup-shaped, 11th as large as the basal joint, suborbicular, but notched externally at the apex (6).

Labrum rather large, transverse, somewhat ovate, with a few small bristles on the margin (1).

Mandibles subtrigonal, one rounded, the other angulated externally, the apex acute and crenated beneath, at least in one, with a ciliated notch below (2).

Maxillæ with 2 ciliated lobes, the internal one, apparently, forming a claw at the apex, the outer one rounded and broader.

Palpi rather elongated, 4-jointed, basal joint small and slender, 2nd and 3rd stout, cup-shaped, 4th the longest, ovate, attenuated to the apex which has a gland (3).

Mentum subtrigonal, the anterior margin bisinuated, having a tooth at the centre. *Palpi* very short and stout, attached to scapes which approximate at the base of the lip, biarticulate, basal joint small cup-shaped, 2nd larger and ovate, slightly pubescent externally, with a gland at the apex (4).

Head broad, trigonal, obtuse: eyes lateral, prominent and orbicular.

Thorax a little broader than the head, transverse-quadrate, the sides slightly convex, with 1 or 2 obscure denticulations, the hinder angles acute, the centre convex over the scutellum which is transverse-ovate.

Elytra elliptical, considerably broader than the thorax. Wings large.

Legs, hinder rather the longest: thighs and tibiae simple, the latter a little clavate: tarsi rather long slender and 5-jointed, basal joint slightly elongated, 4th the smallest, 5th the longest, clavate: claws long slender and acute (5†, hind leg).

BICOLOR Curt. *Guide, Gen.* 241. 1.

Shining ferruginous clothed with short ochreous pubescence; head, excepting the mouth, eyes thorax and scutellum black, strongly and thickly punctured; thorax convex, with a small fovea on each side at the base near the posterior angles: elytra with lines of strong punctures very close together.

In the Cabinets of Mr. Walker, Mr. Walton, and the Author.

THIS interesting little insect has the trophi of *Cryptophagus* (pl. 160), the antennæ of *Latridius* (pl. 311), and pentamerous tarsi; whether, therefore, the *Corticaridæ* ought to be considered as a modification of the *Cryptophagi*, as the *Pselaphi* are of the *Staphylinidæ*, or whether *Paramecosoma* alone should be transferred to the *Engidæ*, admits of doubt until other genera are dissected. Indeed these minute insects will require the most rigorous investigation before we can hope to find their actual affinities, and decide on the location of many whose deviations from typical forms cause such an endless variety amongst insects, and so often embarrass the scientific in their attempts to form a natural arrangement.

Mr. F. Walker first discovered *P. bicolor* at Southgate, and Mr. Walton has since taken it in some abundance in July, off Furze-bushes growing over the water near Knaresborough in Yorkshire.

The Plant is *Arundo Phragmites*, Common Reed.



LATRIDIIUS ELONGATUS.

ORDER Coleoptera. FAM. Corticaridæ *Curt.*—Xylophagi *Lat.*

Type of the Genus, Ips transversus Oliv.

LATRIDIUS *Herbst., Lat., Gyl., Sam.*—*Tenebrio Linn., DeG.*—*Der-mestes Fab., Payk., Panz.*—*Ips Oliv.*—*Corticaria Marsh.*

Antennæ nearly as long as the thorax, inserted at the anterior angles of the head, clavate, 11-jointed, basal joint large globose, 2nd ovate larger than the six following which are slender, the 3rd joint being the smallest, 4th and 5th rather longer than the 6th, 7th, and 8th which are oval, the remainder forming an articulated club, the 9th and 10th joints being cup-shaped, the 11th the largest subglobose, produced obliquely at the apex (6). *Labrum* very broad and short, semioval, anterior margin ciliated and slightly depressed in the middle (1).

Mandibles not exerted, coriaceous, corneous at the base, acute and slightly bifid at the apex, membranous and ciliated internally (2).

Maxillæ terminated by a pilose lobe. *Palpi* short and robust, triarticulate, 1st and 2nd joints large subglobose, 3rd smaller and subcoriaceous with 2 or 3 hairs at the apex (3).

Mentum transverse hexagonal, broadest at the base. *Palpi* arising below the anterior angles, very short and biarticulate, basal joint very large and globose, 2nd very minute. *Labium* short broad and ciliated (4).

Head oblong or subovate, broadest towards the base. Eyes lateral prominent and not touching the Thorax, which is subquadrate-cordate and much narrower than the elytra. Scutellum very minute. Elytra very large and more or less oval. Wings very long. Thighs incrassated. Tibiæ simple subclavate. Tarsi 4?-jointed, basal joint very obscure, 2nd and 3rd of equal length, 4th very long. Claws simple (5).

ELONGATUS *Curtis's Guide, Genus 243. n. 6.*

Pale castaneous. Head oblong coarsely punctured. Eyes black. Thorax oblong, strangulated near the base, coarsely punctured; sides margined and slightly recurved. Elytra very long and twice as broad as the thorax, elliptical and depressed, each having six rows of very large and strongly impressed punctures, the space between the 4th and 5th forming a sharp ridge. Antennæ and legs sometimes paler and tinged with ochre.

In the Cabinets of Mr. Walker, and the Author.

AN elaborate paper by Mr. J. F. Kyber relating to the æconomy of one of these little insects, will be found in the 2nd vol.

of Germar's Magazine, illustrated by figures of the larva, pupa, &c.; thence we learn that they feed on the Mucor found upon vegetable and animal substances, and that they were particularly attached to some pods of the radish (*Raphanus sativus*): they are sometimes observed in beer, and are seen upon the corks of bottles, which they assist probably to destroy.

The larvæ lived from March to the middle of May; they then changed to pupæ, fastening themselves to the sides of the glass by their tails with their heads uppermost, and in this state they remained about fourteen days.

These insects prefer dark and damp situations, and are commonly found upon the walls of houses, under the bark of dead trees, amongst grass, and in fungi: in England there are either two broods in a year, (as they are most abundant in April and August,) or they live through the year, which is very probable; for most if not all of them are common in moss in the winter. Birds and spiders prey upon them.

The following are British species.

1. *L. lardarius* DeG.—*quadratus* Herb.—*acuminatus* Payk.—*rugicollis* Marsh. 113. 23.

Mr. Samouelle says it is found in hedges and sandy places in April, May, and August.

2. *L. rugicollis* Oliv. 2. pl. 3. f. 19.—Gyll. 4. 137.—The only specimen I have seen, I took many years since in Norfolk.

3. *L. porcatus* Herb.—Panz. 23. 9.—Germ. Mag. v. 2. tab. 1. f. 1-6.—*marginatus* Payk.—*pulla* Marsh. 111. 14.—*minutus* Linn. ?

March, April, and May; damp paper and old wood in houses; Mr. Samouelle.

4. *L. hirsutulus* Steph.—*hirtus* Gyll. ? v. 4. p. 139.

5. *L. transversus* Oliv. v. 2. n° 18. pl. 3. f. 20.—Marsh. 109. 10.—*sculptilis* Gyll.

March, April, May, and August; hedges and sandy places; Mr. Samouelle. Common in Norfolk.

6. *L. ruficollis* Marsh. 111. 17.—*constrictus* Gyll.

April, May, and August; sandy places and hedges; Mr. Samouelle. In plenty in moss in Suffolk.

7. *L. elongatus* Curtis Brit. Ent. pl. 311.

Taken by Mr. F. Walker in abundance out of moss collected in the winter, in the vicinity of Southgate; and I have received it from the New Forest.

This insect is readily distinguished from *L. ruficollis*, which it most resembles, not only by its uniform colour and its larger size, but the thorax is more elongated and not so broad before, and the punctures on the elytra are larger in proportion and more regular.

The beautiful plant represented is *Ophrys apifera* (Bee Ophrys).



Chrysomelidae: Anthrenus

BITOMA CRENATA.

ORDER Coleoptera. FAM. Corticaridæ *Curt.*
Xylophagi *Lat.*

Type of the Genus, Lyctus crenatus Fab.

BITOMA *Herb., Lat.*—Lyctus *Fab., Payk., Panz.*—Ips *Oliv.*—Ditoma *Lat., Leach.*

Antennæ inserted before the eyes, on each side of and under the clypeus, not much longer than the head, capitate and slightly pilose; 11-jointed, 1st and 2nd joints larger than the 3rd, the former subglobose, the 3rd and 5 following subquadrate, gradually increasing in diameter, the 9th larger, cup-shaped, the 10th and 11th forming a compressed club, the former cup-shaped, the latter suborbicular (6).

Labrum rather transverse-oblong, the angles truncated and ciliated (1).

Mandibles not porrected, bent, acute, bifid at the apex, hollowed externally towards the base, the internal margin cut out and producing a ciliated membrane (2).

Maxillæ terminated by a rounded lobe, strongly ciliated with bristles and a narrow lobe on the inside. *Palpi* short robust and rather pubescent, 4-jointed, basal joint minute, 2nd obtrigonal, 3rd subquadrate, 4th as long as the others united, elongate-ovate, compressed at the apex (3).

Mentum transverse, sides convex, the angles acute. *Labium* long, cordate, the anterior margin ciliated. *Palpi* rather short, inserted above the base of the lip, triarticulate, basal joint minute, 2nd rhomboidal, 3rd elongate-ovate, with a vesicle at the apex (4).

Head obtuse. Eyes small remote, lateral. Thorax quadrate. Scutellum minute. Elytra depressed, oblong, narrow and rounded at the apex. Wings very ample. Legs short. Thighs incrassated. Tibiæ simple, furnished with very minute spurs at the apex. Tarsi all 4-jointed, the 1st joint subquadrate, 4th long subclavate. Claws bent and acute (5).

CRENATA *Herb., Fab., Oliv., Panz., Payk., Lat.*

Rather dull black. Head and thorax covered with shallow punctures; antennæ and margin of the clypeus pale castaneous. Thorax with a slight channel down the centre and a curved line on each side, forming an elongate oval area on the back, and nearer each lateral margin is a longitudinal carina. Elytra with a considerable portion of the base and apex bright ferruginous; 5 longitudinal carinæ on each with 2 rows of square punctures between them, as if stamped.

In the Author's and other Cabinets.

LATREILLE first termed the group to which *Bitoma* belongs Xylophagi, but he has since divided it, and called the portion that includes our insect *Trogossitarii*; and Mr. W. S. MacLeay's family Engidæ, as he has sketched it in the 1st part of the "*Annulosa Javanica*," would comprehend our Corticaridæ.

Since it requires a correct combination of genera to form a natural family, a more difficult task cannot fall to the lot of the entomologist, until the whole group on which he is writing has been carefully investigated; and for this reason I have omitted the families in the "*Guide to an Arrangement of British Insects*." In the present instance I have separated those tetramerous insects which live beneath the bark of trees, and have characterized them by the term Corticaridæ; and this family will comprise the genera between *Scydmaenus* (which I believe to be closely allied to this group) and *Hypophlæus*.

The pretty insect, which is the type of the genus *Bitoma* (called sometimes *Ditoma*, by mistake I apprehend), has been frequently described and figured: it had not, it appears, been detected in England when Mr. Marsham published his "*Coleoptera*." But a few years after, Mr. Haworth captured two specimens at Little Chelsea, in July. It has subsequently been found under the bark of trees, in May, June, July, and August; and I have twice met with it in considerable abundance under the bark of beech-trees, in the New Forest.

The plant is *Origanum vulgare* (Wild Marjoram).



RHYZOPHAGUS BIPUSTULATUS.

ORDER Coleoptera. FAM. Cerylonidæ Curt.

Type of the Genus, Lyctus ferrugineus Payk.

RHYZOPHAGUS Herb., Gyll., Curt.—Cerylon Lat.—Lyctus Fab., Payk., Panz.—Corticaria Mars.—Ips Oliv.

Antennæ attached to a little shoulder just before the eyes, scarcely longer than the head, capitate, pilose, 11-jointed, basal joint stout, subovate, narrowed at the base, 2nd subovate, 3rd nearly as long as the 1st but slender, 5 following small, subquadrate, 9th larger, the remainder forming a globose hairy club, the 10th joint being the largest, the 11th transverse with the centre produced like a 12th joint (6).

Labrum very short and broad, scarcely projecting beyond the clypeus, ciliated and bristly, having 2 long parallel ones at the centre (1).

Mandibles rather elongated, rounded externally, the apex notched, with a minute tooth beneath terminating a long leathery margin on the inside, ciliated towards the top (2).

Maxillæ slender, composed of 2 lobes, the internal one broad rounded and ciliated very densely towards the apex, the external forming a long slender coriaceous palpiform lobe, apparently articulated at the apex. *Palpi* stout and 4-jointed, basal joint small, 2nd subobtrigonal, 3rd bowl-shaped, 4th the longest, ovate-conic, the apex fleshy (3).

Mentum rather large, transverse, the anterior angles rounded, the centre produced and forming a base to the *Lip* which is semiovate, the centre with a small notch. *Palpi* short stout and composed of 2 joints, the 1st obconic-trigonal, 2nd a little longer and ovate, the apex fleshy (4).

Head ovate, contracted at the base, the clypeus considerably narrowed and semiovate: eyes small lateral and distant from the Thorax, which is generally oblong: scutellum suborbicular. Elytra narrow, linear, twice as long as the thorax, rounded at the apex, but not covering the abdomen. Wings ample. Legs short, nearly alike in size: thighs incrassated: tibiæ very much dilated at the apex and compressed, with a short stout spine at the apex: tarsi slender, 5, 5 and 4-jointed, 3 first joints in the anterior short, and clothed with long hairs beneath, 4th small, 5th long and clavate (5); hinder pair with the 3 first joints short, the 2nd being very hairy beneath, 3rd the smallest, 4th long and clavate: claws simple (5†, hind foot).

BIPUSTULATUS Fab.—Curt. Guide, Gen. 250. 4°.

Smooth, shining, piceous; clypeus, antennæ and legs ferruginous; thorax oblong-obovate, truncated before, sparingly but strongly and regularly covered with oval punctures, rather closer on the head: elytra with 8 or 9 striæ on each, deeply and regularly punctured, shoulders castaneous with a round or lunate ferruginous spot towards the apex, which is margined with the same colour, the shoulders more castaneous. *Obs.* some specimens have the elytra entirely black.

In the Author's and other Cabinets.

ALTHOUGH this genus had been placed by Latreille and other writers with the Tetramera, I always considered that it was allied to Hypophlæus (pl. 430.), and it was consequently placed before that genus in the Guide; it was therefore very satisfactory to find on examination that Rhyzophagus is really an Heteromerous group, as stated by Gyllenhal. The trophi, as might be expected from their similar œconomy, are considerably like those of Hypophlæus, with the exception of the *external* lobe, which is dissimilar to any I am acquainted with; and the antennæ resemble some of the Nitidulæ.

The following species have been found in England; they generally live under the bark of dead trees in the winter and spring.

1. ferrugineus *Pk.* Rufous-ferruginous, thorax subquadrate, deeply punctate, elytra strongly punctate-striate, antennæ with the basal joint fuscous. *Gyll.* $1\frac{3}{4}$ to $2\frac{1}{2}$ lines long.

Under bark of Pines, May and June, Manchester, Mr. Wood: Stafford and Parley Dorset, Mr. Dale: bark of beech trees, December, Meldon Park, Mr. Wailes.

- 1^a. depressus *Fab.* Rufous-ferruginous, subdepressed, beneath rufous-piceous, thorax subquadrate, neatly punctured, elytra finely punctate-striate. *Gyll.* $1\frac{3}{4}$ line.

Under bark of dead trees, especially Oaks; from Norfolk as well as *R. terebrans*.

2. cylindricus *Steph.* not of *Panz.* Cylindric, ferruginous, thorax subpunctate, elytra deeply punctate-striate. *Steph.* $2\frac{1}{4}$ lines.

This and No. 5. have been found near London.

- 2^a. terebrans *Oliv. v. 2. n. 18. pl. 1. f. 7.* Brown-ferruginous, without spots; elytra with crenated striæ. *Oliv.* $2\frac{1}{4}$ lines.
3. rufus *Wilk.* Narrow, rufous-ferruginous, thorax finely punctate, elytra faintly punctate-striate. *Steph.* $1\frac{1}{2}$ line.

New Forest, Mr. Dale; North of England, Mr. Davis.

- 3^a. cribratus *Gyll.* 4. 637. Narrow, rufous-ferruginous, thorax quadrate, deeply but sparingly punctured, elytra striate-punctate, punctures remote. *Gyll.* $1\frac{1}{2}$ line.

4. bipunctatus *Herb.*—dispar *Pk.*—elongata *Oliv. pl. 2. f. 15.* Rufous-ferruginous, linear, shining, thorax oblong, finely punctate, narrowed behind, elytra punctate-striate, with a broad piceous black fascia at the middle. $1\frac{1}{2}$ line.

Under bark of Oaks, Swansea, Mr. Dillwyn; Yorkshire, Mr. Matthews.

- 4^a. bipustulatus *Fab.*—dispar β *Pk.* clavicornis *Herb. C. 5. pl. 45. f. 10. K.*—taxicornis *Mars.*—*Curt. B. E. pl. 579.*

May and June under bark of Elm and Beech-trees, Kensington Gardens; Norfolk; January, Weston-on-the-Green, Mr. Matthews; New Forest, Mr. Dale.

5. parvulus *Pk.* Piceous-black, shining, subdepressed, antennæ and legs ferruginous, thorax subquadrate, finely punctate, elytra lurid-testaceous, punctate-striate. *Gyll.* 1 line.

6. obsoletus *Spence.* Elongate ovate, ochreous, very glossy, deeply but sparingly punctured, thorax large, sides a little convex; elytra ovate and covering the body, with 5 or 6 coarse lines of punctures on each. $\frac{3}{4}$ line.

Mr. Spence first discovered this at Hull, and I have taken it in Norfolk.

The Plant is *Carpinus Betulus* (Horn-beam Tree).



HYPOPHLÆUS BICOLOR.

ORDER Coleoptera. FAM. Tenebrionidæ.

*Type of the Genus, Hypophlæus castaneus Fab.*HYPOPHLÆUS *Fab., Lat., Panz., Gyll., Curt.*—*Ips Oliv.*

Antennæ inserted in a cavity before the eyes, shorter than the thorax, clavate pilose and 11-jointed, basal joint strangulated in the middle, 2nd minute, 3rd oblong, 4th subglobose, the remainder larger and cup-shaped but compressed, both sides having a serrated appearance, terminal joint the largest and ovate (6).

Labrum exserted, transverse-oval, the margin ciliated (1).

Mandibles elongate-trigonal, slightly hooked and pointed, one simple, the other with a partial margin on the outside, a small tooth beneath the apex and a short membranous and ciliated margin below it (2).

Maxillæ short, terminated by a large lobe, pubescent at the apex, ciliated externally; internal lobe small and long, dilated and ciliated at the apex. *Palpi* short rather stout and 4-jointed, basal joint small, 2nd and 3rd subovate, 4th the largest, somewhat securiform, but truncated very obliquely (3).

Mentum dilated and rounded before: *Palpi* arising from the anterior margin, not very remote, rather short and stout, triarticulate, basal joint a little curved, 2nd obovate, truncated obliquely, 3rd longer, ovate-conic. *Lip* large and broad, ciliated with a few bristles (4).

Head *rather small*: eyes *small but prominent and oval*. Thorax *oblong convex*: scutellum *minute*. Elytra *very long convex and elliptical*. Wings *ample*. Legs *short*: thighs *slightly notched beneath near the apex*: tibiæ *compressed, gradually narrowed to the base, spurred*: tarsi *5-jointed, posterior 4-jointed, all the joints short, excepting the last which is long and clavate*: claws *simple and hooked* (5 a fore leg, 5 † hind leg).

BICOLOR *Oliv. 2. No. 18. pl. 2. f. 14.*—*Curt. Guide, Gen. 252. 2.*

In the Author's and other Cabinets.

THIS little group is allied to *Tenebrio* (*pl. 331.*) on the one hand, and probably to *Rhizophagus* on the other; but although it has the habit of an *Ips*, it is certainly in no way related to that genus.

Like those insects, the *Hypophlæi* live under the bark of trees where they breed; but in this country they are by no means common. *II. bicolor* was not known to Mr. Marsham

when he published his Coleoptera, although it has since been occasionally met with in some abundance.

The following are said to be British species of *Hypophlæus*.

1. *H. castaneus* *Fab.*—*Panz.* 12. 13.—*taxicornis* *Oliv.* 2. No. 18. pl. 1. f. 2.

Length 3 lines. Shining castaneous brown, firmly punctured, thorax oblong, elytra very long, punctate-striate, with a row of punctures between them.

Specimens of this rare insect are preserved in the cabinets of the British Museum, Mr. Kirby and Mr. Vigors, said to have been taken under the bark of an Elm-tree near Plymouth by Dr. Leach, and in the New Forest, I believe, by Mr. Bydder. Gyllenhal says it is found under the bark of dead trees, especially the Beech.

2. *H. bicolor* *Oliv.*—*Panz.*—*Curt. Brit. Ent. pl.* 430.

Shining rufous, thickly and minutely punctured; eyes black; thorax suborbicular, the posterior angles slightly acuminate; elytra (excepting the base) and apex of abdomen black, the former with the punctures disposed longitudinally, but irregularly.

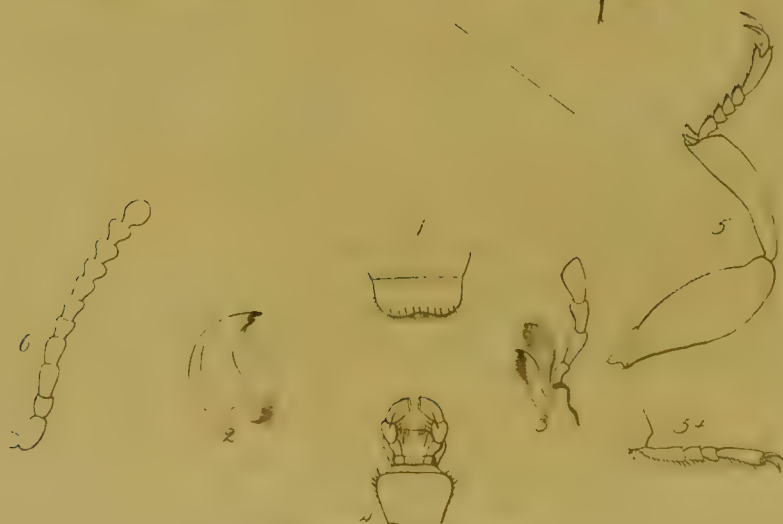
Lives under the bark of Elms; also of the Oak and Birch. For specimens of this pretty little insect I was first indebted to my friend E. T. Bennett, Esq. who took them in abundance in a *Boletus* in Kensington Gardens; it has been taken also in February, April, and May, at South Creak in Norfolk, and Sydenham in Kent; and in October I found a specimen under the bark of an Elm-tree in Camberwell Grove.

3. *H. depressus* *Fab.*—*Panz.* 1. 23.—*unicolor* *Oliv.* 2. No. 18. pl. 2. f. 8.

Length $1\frac{1}{2}$ line. Shining ferruginous red, immaculate, depressed, thorax short, subquadrate, elytra punctate-striate.—*Gyll.*

Lives under the bark of dead trees, especially the Oak, and is occasionally met with in flowers in Sweden. Specimens are said to have been taken in June in Copenhagen Fields, and near an Elm in Gray's Inn, by Mr. Ingpen; and an insect detected under the bark of an Oak near Swansea, is supposed by Mr. Dillwyn to have been this species.

The Plant is *Convallaria majalis* (The Lily of the Valley).



Salvia officinalis L.

TENEBRIO OBSCURUS.

The Flour-beetle.

ORDER Coleoptera. FAM. Tenebrionidæ Lat.

Type of the Genus, Tenebrio Molitor Linn.

TENEBRIO Linn. &c.

Antennæ inserted under the margin of the head, before the eyes, not longer than the thorax, filiform, naked and 11-jointed, basal joint oval, 2nd rather the smallest, 3rd a little the longest, 4th somewhat longer than the 5th and 6th which are subpyriform and truncated, the remainder cup-shaped, excepting the terminal joint which is subglobose (6).

Labrum inserted under the clypeus, transverse semioval, slightly emarginate in the centre and thickly ciliated (1).

Mandibles short, subtrigonal, circular outside, acute but emarginate at the apex, with a quadrate notch on the inside and a subcoriaceous margin (2).

Maxillæ small, bilobed, internal lobe lanceolate, producing a claw at the apex, pubescent and ciliated; external lobe longer, broader and very pilose. *Palpi* rather long 4-jointed, basal joint slender and short, 2nd longer pyriform, 3rd not so long, 4th as long as the 2nd, slightly hatchet-shaped (3).

Mentum obtrigonal-truncate, anterior angles rounded and ciliated, anterior margin subcoriaceous. *Labium* not so broad, subcordate, pilose on the upper side near the fore part. *Palpi* rather short, attached to 2 small scapes at the base of the lip, triarticulate, basal joint the slenderest, 2nd obovate, furnished with strong bristles, 3rd longer, elongate-ovate, truncate (4).

Head suborbicular. Eyes narrow vertical and emarginate on the inside.

Thorax subquadrate or slightly transverse, somewhat narrowed before, nearly or quite as broad as the elytra at the base. Scutellum truncated at the apex. Elytra elliptical. Wings ample. Legs rather strong and short. Thighs; anterior incrassated. Tibiæ; anterior curved, all having very short spurs at the apex. Tarsi short rather pilose, anterior and middle pair 5-jointed, basal joint short, 3 following somewhat cup-shaped, 5th long clavate, notched at the apex to receive the Claws which are simple, posterior pair (5+) 4-jointed, basal joint as long as the terminal (5, a fore leg).

OBSCURUS Fab. E. S. 1. pars 1. p. 111. 5.—Curtis's Guide, Gen. 253. 2.

Dull black, minutely and thickly punctured. Antennæ and palpi castaneous, especially the 4 terminal joints of the latter. Thorax as long as it is broad, convex, ovate-truncate, broadest at the base, posterior angles slightly acuminate, a transverse channel at the base, terminated on each side, before the apex, by a short impressed line. Elytra elliptical, with a faintly punctured and abbreviated stria next the scutellum, and 8 others continued to the apex, the interstices with an obscure row of tubercles down the middle of each. Legs and underside subcastaneous, the tarsi brighter. Larva shining pale brown.

In the Author's and other Cabinets.

THE larvæ of the Tenebriones, called Meal-worms, are a favourite food of the Nightingale; they feed upon bran, meal and flour, amongst which they live and undergo their metamorphoses. Sturm has figured the larva and pupa of *T. Molitor*; and Mr. Davis having obligingly supplied me with specimens, I have the pleasure of adding a figure of that of *T. obscurus* to my Illustrations: it is of a much darker colour, and there are a few bristles on each side the first annulation: the proleg beneath the tail was very distinct when the larva was alive. The beetles fly in the evening or during the night, and are found in mills, granaries and bakehouses, and amongst dirt in houses, concealing themselves in the day.

It is probable that none of the Tenebriones were originally natives of our island; but as two of them are naturalized, breeding here, and being found every year in various parts of the kingdom, they are now included in our Fauna.

1. *T. Molitor* Linn.—Sturm *D. F. pl.* 46.—Panz. 43. 12.—*Sam. pl.* 4. f. 1.

Shining piceous, minutely and thickly punctured. Antennæ, trophi legs and underside dull castaneous: head rather small; thorax transverse, convex, the sides slightly reflexed, posterior angles acute; a transverse channel close to the base terminated on each side by a foveolet. Elytra broader, with an abbreviated punctured stria next the scutellum, and eight others reaching nearly to the apex. Larva pale cream colour.

This is the common species, and is found all over the country, generally in April, May and June.

2. *T. obscurus* Fab.—Curtis *Brit. Ent. pl.* 331.—Morio *Herb.*

Mr. Davis has reared this insect, which probably does more mischief than the common one; for *T. Molitor* prefers damp and damaged flour, it is said, whilst the larvæ of *T. obscurus* prefer that which is dry and sound. The beetle appears early in April, and in May Mr. Davis found the larvæ, pupæ and imago, all alive together. Professor Lindley found this insect in vast abundance at Stilton; and it has been discovered in American flour, with which it may have been imported. In Sweden it is rare, and from an observation of Gyllenhal's it has probably been introduced there by commerce.

3. *T. ferruginea* Sturm *D. F. pl.* 47 D.

I do not subjoin any of the synonyms, because I think there is some doubt concerning them; at least neither Sturm's figure nor my specimen have an abrupt clava to the antennæ, as described by Fabricius in his account of *Trogosita ferruginea*, which is the same as *Colydium castaneum* Herbst, and possibly the *Tenebrio fuscus* Oliv.; but his *T. ferrugineus* referred to by Gyllenhal I am inclined to think belongs to the Corticaridæ.

It has been found in old bran in bakehouses, but I have reason to believe it only appears casually.

The plant is *Lithospermum arvense* (Bastard Alkanet, or Corn Gromwell).



Drawn by J. Curtis July 1 1841

ULOMA FAGI.

ORDER Coleoptera.

FAM. Tenebrionidæ.

Type of the Genus, Tenebrio Mauritanicus Fab.

ULOMA Dej., Sturm.—Usoma Meg.?—Phaleria Lat.—Tenebrio Fab.

Antennæ inserted before the eyes, under the margin of the head, scarcely so long as the thorax, robust, straight and slightly clavate, pubescent, 11-jointed, basal joint curved, narrowed at the base, 2nd the smallest, 3rd longer than the following, 4th 5th and 6th subquadrate, the 4 following cup-shaped, most produced on the inside, 11th orbicular (6).

Labrum transverse-oval, the base straight, anterior margin pilose and slightly emarginate (1).

Mandibles bent, margined and pilose externally, bifid at the apex, internal margin fleshy and pubescent at the centre (2).

Maxillæ short, terminated by an elongated lobe rounded and pubescent at the apex, producing a shorter lobe on the inside, furnished with a strong tooth at the apex and ciliated with bristles beneath. *Palpi* robust, 4-jointed, basal joint small, 2nd elongate obtrigonal, longer than the 3rd which is trapezate, 4th the largest, oval and truncated obliquely (3).

Mentum subquadrate, the sides produced and rounded anteriorly, posterior margin concave. *Lip* transverse, narrowed at the base, angles rounded, anterior margin pilose. *Palpi* short and robust, triarticulate, 1st and 2nd joints small, the latter cup-shaped, 3rd large subovate, bent at the base (4).

Head semiorbicular, margin of the clypeus sometimes dilated, projecting in a lobe over the Eyes, which are rather small and lateral. Thorax transverse or quadrate, the base undulated. Scutellum subtrigonal. Elytra elongate-oval. Wings ample. Thighs robust. Tibiæ spurred at the apex, anterior slightly dilated and serrated externally (5). Tarsi, anterior and intermediate 5-jointed, the 4 basal joints very short (5); posterior 4-jointed, basal joint nearly as long as the terminal (5†). Claws simple.

Obs. The dissections are taken from the species figured.

FAGI Panz. 61. 3.—Curtis's Guide, Gen. 254. 3.

Shining piceous, more or less castaneous, thickly and firmly punctured all over: Mouth, antennæ, legs, underside and sometimes the margins of the thorax castaneous: Head with a transverse impression at the base of the clypeus: Thorax as broad, sometimes broader at the middle than the Elytra, on which there are 9 punctured striæ; the sutural one being very short.

In the Author's and other Cabinets.

THIS group is so similar in economy and structure to the Tenebriones (at least the British ones), that I think they might be included in one Genus: they are both characterized by

having the margin of the clypeus produced in a lobe backward over the eyes, so as to divide a portion of them.

It is very probable that all the following species have been introduced into England with corn and flour from foreign countries; the two first, however, appear to be naturalized, and the others are occasionally found alive in bake-offices.

1. *U. Mauritanica* *Fab. Ent. Syst.* 1. 113. 15.

Length 3 lines. Shining piceous, minutely punctured all over: mouth, antennæ, legs, underside, margin of clypeus, anterior angles of thorax and apex of elytra castaneous: head with a transverse impression at the base of the clypeus: thorax scarcely so broad as the elytra and narrowed anteriorly: elytra with 9 punctured striæ on each, the sutural one abbreviated.

This insect is larger than the next, and not so thickly punctured; the striæ are deeper, the thorax is gradually narrowed before, and the anterior angles are castaneous. It is a native of the Caribbee Islands, and I have received several from Senegal. Dr. Stephenson used to find it abundantly in October amongst ashes in London, and one was taken out of a dead cricket; and I have a specimen found in Copenhagen-fields, where this or the next species is not uncommonly taken under the turf.

2. *U. Fagi* *Panz.—Curt. Brit. Ent. pl.* 363.

For living specimens of this insect, as well as the larvæ, which resemble those of *Tenebrio* (pl. 331), I am indebted to William Longman, Esq., who took them in great plenty in the month of May, at the back of a baker's shop in Paternoster Row, where the pavement had been taken up.

3. *U. cornuta* *Fab. Ent. Syst.* 1. 112. 13.—*Lat. Gen. Crus. pl.* 10. f. 4 & 5.

Length 2 lines. Linear ferruginous, minutely punctured: eyes black. Male with the mandibles forming two porrected horns in front of the head, recurved and acute; two teeth on the crown of the head near the base; margin of the clypeus dilated: thorax somewhat lunulate-quadrate: elytra with 10 punctured striæ on each, the 1st abbreviated.

A native of Portugal. Living specimens have been found by Mr. Sparshall in some ears of the Maize, that was grown I believe near Norwich; and Mr. Cooper has frequently detected it in his bread in London.

4. *U. læviuscula* *Willk. Mss.—Curt. Guide* 254. 2.

Length $1\frac{1}{2}$ line. Ferruginous ochre, shining, minutely punctured: eyes black: mandibles forming 2 porrected and incurved horns, with 2 tubercles at the base of the head and a deep channel across the crown: thorax subquadrate: elytra with 10 punctured striæ on each, the 1st abbreviated.

From the Cabinet of the late Mr. Honey: the specimens were taken in London.

The plant is *Helleborus fœtidus* (Bear's-foot). Communicated by the Rev. Professor Henslow.



OPATRUM TIBIALE.

ORDER Coleoptera. FAM. Tenebrionidæ Lat.

Type of the Genus, Silpha sabulosa Linn.

OPATRUM Fab., Lat., Sam.—Tenebrio Geof., Mars.—Silpha Linn.

Antennæ inserted under the clypeus, as long as the head, clavate, producing short spiny bristles, 11-jointed, basal joint the longest, curved, 2nd cupshaped, 3rd nearly as long as the 1st, three following subglobose, the remainder cupshaped, increasing in size, the 9th 10th and 11th forming the club, terminal joint suborbicular and pubescent (6).

Labrum suborbicular, emarginate before, sides ciliated (1).

Mandibles thick, trigonate, excavated on the inside and producing a leathery lobe (2).

Maxillæ small, dilated at the base, terminated by 2 narrow pilose lobes, the internal one horny and bifid at the apex (c); external one the largest and articulated. *Palpi* not long but stout, hatchet-shaped and 4-jointed, basal joint small, 2nd large elongate-ovate, 3rd much shorter, 4th trigonate (3).

Mentum pyriform, truncated at the base. *Palpi* short, arising from behind the mentum, apparently biarticulate, basal joint subtrigonate, 2nd twice as large, somewhat elongate-conic, thin at the apex. *Labium* concealed but ciliated (4).

Head transverse ovate, the sides angulated; clypeus semicircular, emarginate in front. Eyes small, placed behind the angles of the head. Thorax transverse, semiorbicular, deeply concave before and sinuated behind, where the angles are acute. Scutellum minute. Elytra oval, the sides inflected. Wings not longer than the body, unfit for flight. Legs neither long nor robust. Tibiæ compressed and dilated at the apex, especially the anterior pair which are slightly serrated externally, and producing small spurs. Tarsi; 4 anterior 5-jointed, moniliform, excepting the last joint which is long and incrassated at the apex (5); posterior pair 4-jointed, basal joint longer than the 2nd and 3rd; which are moniliform, 4th long. Claws bent and acute (5† a portion of hinder tibia and tarsus).

TIBIALE Fab. Ent. Syst.—Curtis's Guide, Genus 256. 2.

Black, shining, thickly and strongly punctured. Thorax with 5 shining spots, 2 of them lunulate on the disc, 2 minute ones behind and an ovate one above the scutellum. Elytra with the surface uneven, and 2 or 3 irregular and slightly elevated lines on each. Legs slightly castaneous.

In the Author's and other Cabinets.

THE internal lobe of the maxillæ assumes a more perfect character than usual in *Opatrum*, being horny and bifid at the apex like that of *Blaps*, which genus it slightly resembles in other respects.

There are only two species of the true *Opatrum* inhabiting Britain, both of which live in sandy situations.

1. *O. sabulosum* *Linn. Faun. Suec.* 150. 456.—*Panz.* 3. 2.—*Sam. pl.* 2. f. 8.—*rugosus* *DeG.*

Dull black, very thickly and minutely punctured. Thorax broadest at the base. Elytra covered with minute warts, 3 waved elevated lines on each, with a few shining spots down each side, and a row next the suture.

Taken the end of April and May at Coomb-wood, Bungay in Suffolk, in a gravel-pit at Lakenham near Norwich, and the middle of July and in September at Dover.

2. *O. tibiale* *Fab.*—*Curt. B. E. pl.* 319.—*Panz.* 43. 10.

Found as early as March in Hants; the end of April in gravel-pits and rabbit-warrens at Great Witchingham, Norfolk, where the plant* represented in the plate was growing, also the middle of May on the sandy cliff at Southwold, Suffolk, in abundance; and on the sand-hills near Swansea.

There are two other insects which may be here recorded, one named

3. *O.?* *Marshami Steph.*;—the other
4. *O.?* *obsoletus* (*Tenebrio*) *Marsh. p.* 475. 2.

“Black, thorax excavated before, truncated behind, elytra striated, obscurely rugose. Length 5 lines.

“Description. Antennæ filiform, 11-jointed. Thorax slightly convex, roughly punctulate, excavated before in the form of a lunule, truncated behind. Elytra obscurely striated and rugose. Body beneath deep black, and rather shining.”

The plant is *Peltidea canina* (Ash-coloured ground Liverwort).

* In the Entomological Transactions, the late Rev. J. Burrell stated, that he found *O. tibiale* in abundance on the *Lichen rangiferinus*:—not understanding cryptogamous plants, I might have misnamed the Lichen I found at Great Witchingham, for I now feel convinced that it was the *Peltidea canina*.



SARROTRIUM MUTICUM.

ORDER Coleoptera. FAM. Tenebrionidæ Lat.

Type of the Genus, Hispa mutica Linn.

SARROTRIUM Ill., Fab., Lat.—Orthocerus Lat.—Hispa Linn., Panz., Mars.—Dermestes Linn.—Ptilinus Fab.—Tenebrio DeG.

Antennæ inserted before the eyes on each side the clypeus, rather longer than the head, perfoliate, robust, clothed with scaly hairs and very pilose, excepting the 2 basal joints; 10-jointed, 1st and 2nd joints subovate, the remainder cupshaped, increasing in diameter to the last, which is not so broad, and less pilose and ovate (6).*Labrum* horny, semicircular and ciliated (1).*Mandibles* small, bent, somewhat acute, external and internal margins sinuated, the latter produced and forming a submembranous pubescent lobe (2).*Maxillæ* small, with 2 lobes, long linear and pilose, especially at the apex, the external one the broadest. *Palpi* not long but rather stout and slightly pilose, 4-jointed, basal joint small, 2nd and 3rd somewhat cupshaped, 4th subovate-truncate (3).*Mentum* very rigid, sparingly pilose, subsemicircular, emarginated before. *Labium* narrower, horny and naked, subquadrate, slightly concave before. *Palpi* inserted in cavities on each side, short and triarticulate, basal joint very minute, 2nd subglobose, 3rd subconic, with a vesicle at the top and producing a few bristles (4).*Head* flat subquadrate. *Eyes* small lateral. *Thorax* rather broader and convex, subquadrate, but rounded a little behind. *Scutellum* minute. *Elytra* convex, elliptical. *Wings* ample with a yellow spot on the inferior margin. *Legs* rather short. *Thighs* not very robust. *Tibiæ* stout and simple, not spurred. *Tarsi* nearly as long as the *tibiæ*, all 4-jointed, basal joint a little larger than the 2nd and 3rd, which are subglobose and depressed, 4th as long as the others united, subclavate. *Claws* short, strong and simple (5, a fore leg; 5† portion of hind leg).

MUTICUM Linn. Syst. Nat. p. 604. n. 4.—Curtis's Guide, Gen. 257.—clavicornis Linn. F. S.—hirticornis Lat.

Dull black, rugose, covered with very short depressed rigid and somewhat hoary bristles. *Antennæ* with the two basal joints gray. *Head* and *thorax* rugose with punctures, the former sloped off a little in front, and the sides elevated towards the front, where the *antennæ* are inserted; the *thorax* has a very large channel down the middle, sometimes interrupted and forming a fovea at the base. *Elytra* with 3 elevated lines on each, and 2 rows of large punctures between each of the ridges.*In the Author's and other Cabinets.*

THE remarkable antennæ of this insect, which are alike in both sexes, will distinguish it from all others that are related to it; and the idea that was once entertained of its affinity to *Hispa*, was a very mistaken notion, which could only have had its origin for want of knowledge of their structure; for although *Sarrotrium* is tetramerous, the penultimate joints are not bilobed; the antennæ are remote and only ten-jointed, and the trophi are evidently those of Latreille's *Heteromera*, and in the mandibles we recognise an important character which belongs to that tribe, an inner margin notched and producing a fleshy lobe.

The labrum in the specimen dissected is not symmetrical, probably from its having been injured when the insect was first excluded; but as I had not another that could be spared for the purpose, I was obliged to make use of it.

Mons. Latreille having adopted Illiger's generic name in his "*Familles Naturelles*," I have only followed him in giving the preference to it, although there is no doubt that *Orthocerus* has the right of priority.

Sarrotrium muticum is by no means a common insect in this country, although it has been taken in various parts of the kingdom, always in gravel-pits or on sand-hills, generally on the coast; and it is said to be found at the roots of *Peltidea canina* (Plate 319). In Norfolk it has been captured by the Rev. T. Skrimshire, near Burnham; and the late Mr. Joseph Hooker met with it in January, on Mousehold heath near Norwich. Mr. Millard discovered it near Swansea, where Mr. Jeffreys has since taken it very plentifully in summer, and Mr. Davis the middle of last April on Crwmllyn Burrows. Mr. Samouelle states that it has been found near Hampstead in June and July; and in the former month Mr. R. Wood of Manchester has met with it at Crosby or Formby near Liverpool. Mr. Newman also captured 3 or 4 on Blackheath the beginning of last May.

The plant is *Picris* (*Helminthia* Juss.) *echioides* (Bristly Ox-tongue).



BOLITOPHAGUS AGRICOLA.

ORDER Coleoptera. FAM. Diaperidæ.

*Type of the Genus, Bolitophagus Agricola Fab.*BOLITOPHAGUS *Ill., Fab., Gyll., Curt.*—*Elcdona Lat.*—*Opatrum Oliv., Fab., Mars.*—*Diaperis Oliv.*

Antennæ inserted before the eyes, under the margin of the clypeus, curved, clavate, pubescent, and 11-jointed, basal joint stout, curved, and semilunate, 2nd ovate-truncate, 3rd pear-shaped, 4th the smallest, the remainder remotely articulated, produced a little on the inside appearing slightly serrated, and gradually increasing in size, 5th and 6th broadest at the base, 4 following cup-shaped, 10th considerably the largest, 11th suborbicular (6).

Labrum not symmetrical, transverse, semiovate and hairy (1). *Mandibles* strong and trigonate, curved and bifid at the apex, the internal margin notched and covered by a large transparent lobe (2).

Maxillæ terminating in a large suborbicular lobe, very hairy at the apex, with a small one on the inside. *Palpi* rather short, slightly pubescent and 4-jointed, basal joint minute, 2nd elongate obtusigonal, 3rd shorter, slightly chalice-shaped, 4th the longest, elliptical, ovate at the apex (3).

Mentum oblong, truncated at the base, dilated, ovate and a little concave before. *Labium* rather broad, horny in the middle, with a transparent lobe on each side, ciliated in the middle. *Palpi* short, remote, attached to the sides of the horny centre; triarticulate, basal joint minute, 2nd subglobose, 3rd the longest subovate, elongated and glandular at the apex (4).

Head *exserted, transverse, anterior margin forming a sharp ledge and projecting in a lobe over the Eyes which are small lateral and globose.* Thorax *twice as broad as the head, transverse-ovate, the sides margined and slightly denticulated, anterior angles produced: scutellum small and trigonate.* Elytra *broader than the thorax, cylindrical and rounded at the apex.* Wings *very ample.* Legs *moderate: tibiæ broad, short and compressed: tarsi inserted in a groove near the inner angle, short, 5-jointed, (5, a fore leg); posterior 4-jointed (†), with the basal joint nodose at its insertion and resembling a joint, 2 following cup-shaped, terminal joint elongated, stout and subclavate: claws strong and curved.*

AGRICOLA *Fab.—Curt. Guide, Gen. 258. 1.—sulcatus Thunb.—agaricicola Lat.*

Dark chocolate colour; head variolated, thorax rugose with large punctures and minute tubercles, lateral margins narrow, ferruginous and denticulated; elytra with 9 sharp elevated striae on each, with lines of large deep punctures between them; mouth antennæ and legs ferruginous.

In the Author's and other Cabinets.

THE genus *Bolitophagus* was established by Illiger, and being adopted by Fabricius and other writers to the present time, I have employed it, although I doubt whether Latreille's name *Eledona* has not the right of priority. Illiger's is evidently not correctly written, since it was intended to imply that these insects feed on *Boleti*, and it must be admitted that the specific name *Agaricola* is much more apposite than the Fabrician one; no unnecessary innovations, however, must be allowed, I have therefore copied the names literally, although they were corrected in the Guide.

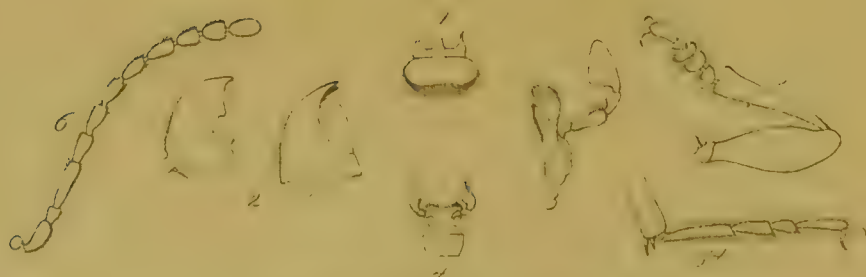
Bolitophagus seems to be related to *Sarrotrium* (fol. 314.), thereby forming a connexion with the *Tenebrionidæ*, and it is undoubtedly allied to *Diaperis* (fol. 358.); Latreille places it between that genus and *Tetratoma* (fol. 123.) in his "Genera Crustaceorum," &c., but it follows *Hypophlæus* (fol. 430.) in his "Familles Naturelles."

Mr. Wilkin had an idea that he had discovered a new species of *Bolitophagus*, and the mistake arose from very few specimens being known at that time, and it was a pale-coloured individual, with the surface appearing more perfect than usual, from the sculpture being free from the particles of the *Boleti* that they live upon, which often fill and obliterate the punctures and other indentations. The only species therefore known to inhabit this country is the

B. Agricola *Fab.*—*Curt. Brit. Ent. pl.* 586.

This insect inhabits *Boleti*, especially amongst oaks, and is sometimes found in abundance in May and June. Mr. Kirby has taken it in Suffolk in the Agaric of the Willow; I once took 2 or 3 out of a *Boletus* on a Pollard Elm in Norfolk. Mr. Ingpen has met with it in Kensington Gardens, and Mr. Hope at Netley in Shropshire.

For specimens of the pretty Autumnal Squill (*Scilla autumnalis*) I am indebted to Mr. C. Fox, who gathered them on Blackheath.



HELOPS PALLIDUS.

ORDER Coleoptera. FAM. Tenebrionidæ.

*Type of the Genus, Helops caraboides Panz.*HELOPS *Fab., Ol., Lat., Leach, Sam., Panz., Sturm.*—*Tenebrio Linn.*—*Blaps Marsh.*

Antennæ inserted close to the eyes at the base of the mandibles, as long as the head and thorax, slightly thickened and compressed towards the extremity, pubescent; 11-jointed, basal joint rather robust, 2nd the smallest, 3rd the longest, the remainder not longer than the 1st obovate, terminal joint oval (6). *Labrum* exserted, transverse-oval, ciliated, furnished beneath with a coriaceous membrane projecting beyond the anterior margin (1).

Mandibles rounded externally, bent acute and slightly bifid, emarginate on the inside and producing a coriaceous lobe (2).

Maxillæ small, terminated by an articulated lobe, spongy and pubescent at the apex, with a small one on the inside ciliated.

Palpi 4-jointed, basal joint small and bent, 2nd long robust and pilose, 3rd short semilunulate, 4th large securiform (3).

Mentum small, obtrigonal, truncate. *Lip* thin horny subcordate and ciliated. *Palpi* short attached to indistinct scapes near the centre of the lip, triarticulate, 1st and 2nd joints minute, the former curved, the latter subtrigonal, 3rd joint large, subcornuform, curved, the apex being whitish globose and spongy (4).

Head suborbicular. Eyes small lateral. Thorax convex cordate-truncate or subquadrate. Scutellum small and triangular. Elytra convex oval. Wings shorter and narrower than the elytra and truncated at the apex. Thighs robust. Tibiæ dilated towards the apex, spurs very small. Tarsi entire, 5-jointed, anterior pair dilated in the males, especially the 2nd and 3rd joints (5), posterior pair 4-jointed (5+). Claws simple and hooked.

PALLIDUS *Nob.*

Pale ochraceous, shining, thickly and minutely punctured. Antennæ darkest at the apex. Eyes black. Thorax transverse rather narrowed behind, the basal margin ferruginous, and the angles rectangular. Suture ferruginous. Elytra with 8 rather irregularly punctured striæ on each. Tips of the thighs and claws ferruginous.

Obs. In some specimens the punctures on the elytra are scarcely visible, and the striæ are much fainter.

In the Cabinets of Mr. Walker and the Author.

THIS genus is distinguished from *Blaps* not only by differences in the trophi, but the elytra are separated, having short wings or rudiments beneath them, and the anterior tarsi are dilated in the males, as in the *Carabidæ*. Latreille observes that the larvæ are similar to those of *Tenebrio*.

The following are British species of the genus *Helops*.

1. *H. caraboides* *Panz.* 24. 3.—*Sturm's Deut. Faun.* 2. pl. 50.
—*dermestoides* *Ill.*—*striatus* *Oliv.* ?—*Spartii* *Marsh.*
p. 481.

Rather larger than No. 2; elongate-ovate, piceous bronzed, thickly punctured. Thorax broadest at the base. Elytra with 8 punctured striæ on each. Antennæ and tarsi subferuginous.

This insect may be found, I believe, during the whole year in most parts of England, at the roots of trees, under grass, and upon the broom.

2. *H. pallidus* *Curt. Brit. Ent. pl.* 298. *mas.*

At first sight this insect looks like an immature specimen of *H. caraboides*; but independent of the colour, the thorax is differently formed. This fine species, which is new to Britain and appears to be undescribed, was discovered the end of last September by Mr. H. Walker and his brother at Barmouth, North Wales. Several specimens were found at the roots of grass close to the sea.

3. *H. lanipes* *Linn. Mant.* 1. 533.—*Fab.*—*Panz.* 50. 2.

Twice as large as No. 1; elongated, very glossy, brown with a brassy tinge. Head and thorax thickly punctured. Elytra with 8 deeply punctured striæ on each, the interstices slightly punctured.

Supposed to have been taken under the bark of trees in Devon by the late Mr. Cranch, in June.

4. *H. cæruleus* *Fab.*—*chalybeus* *Rossi, Oliv.*—*violaceus* *Marsh. p.* 480.—*Sam. pl.* 4. f. 4.

As large or larger than the last, and similar in form, but generally more robust. Deep blue with a violet tinge. Head and thorax thickly and strongly punctured. Elytra punctured, with 8 strongly punctured striæ and an abbreviated one next the scutellum on each. Antennæ and legs blackish; tarsi brown, fulvous beneath.

Found in decayed trees, and under bark; also in houses and sandy situations at Norwich and other places, in April, May, June and July.

The plant is *Statice Armeria* (Common Thrift).



BLAPS OBTUSA.

ORDER Coleoptera. FAM. Blapsidæ *Lat., Leach.*

Type of the Genus Tenebrio mortisagus Linn.

BLAPS *Fab., Lat., Oliv., Leach.* *Tenebrio Linn., Geoff., DeGeer.*

Antennæ inserted before the eyes, subfiliform, 11-jointed, basal joint pear-shaped, 2nd minute, 3rd long, 4 following of equal length, the 7th being the largest, the remainder moniliform, the last subconic (fig. 6).

Labrum exserted, transverse-ovate, slightly emarginate, pilose, with a thick brush of hair on each side near the centre of the anterior margin (1).

Mandibles large, bent, broad and bifid at their apex, fleshy on the internal side (2).

Maxillæ bilobed, internal lobe slender, bent, horny and bidentate at the apex, ciliated internally, outer lobe thick ovate, hairy at the apex. *Palpi* rather long, 3-jointed, basal joint long clavate, 2nd shorter clavate, 3rd large obtrigonal (3).

Mentum small, not covering the base of the maxillæ, transverse-ovate. *Lip* large subcordiform, ciliated with strong hairs. *Palpi* inserted on each side the lip, 3-jointed, basal joint short, 2nd robust trigonal, 3rd large securiform (4).

Head rounded, rather small. Eyes small, lateral, lunular. Thorax sub-quadrate. Scutellum very small or wanting. Elytra connate, sides inflexed, apex mucronate especially in the males, in which sex there is a fascicle of hair at the base of the 2nd abdominal joint beneath (10 a). Wings none. Legs long, robust. Tibiæ simple, spurred. Tarsi alike in both sexes, 4 anterior 5-jointed, posterior pair 4-jointed. Claws long. Pulvilli none (5, a fore leg).

OBTUSA *Fab. Ent. Syst. Supp. p. 46.—similis Lat. Hist. Nat. t. 10. p. 279.—lethifera Marsh. p. 479. n. 2.*

Male black, naked. Head thickly and minutely punctured. Antennæ shorter than the thorax, all the joints excepting the 3rd being moniliform. Thorax transverse, anterior angles very much rounded, finely and thickly punctured. Elytra very broad, convex, acuminate at the apex, coarsely and thickly punctured. Process between the posterior coxæ narrower than in *B. mortisaga*, a tuft of yellowish hair arising in the middle, at the base of the 2nd abdominal segment (f. 10, underside of abdomen).

Female broader, less shining, scutellum none; elytra more obtuse and less acuminate.

In the Author's and other Cabinets.

IF it were not well known that the larvæ of the *Heteromera* are exceedingly different from those of the predaceous *Pentamera*, it might be difficult to ascertain whether their relationship had not a greater claim than that of analogy; and more satisfactory examples to confirm our opinion cannot perhaps be adduced than the genus before us and *Cychrus*:—their antennæ are not very dissimilar, they are destitute of wings, and the elytra are united, the palpi are hatchet-shaped, and in the maxillæ the resemblance is still maintained in the internal lobe which is bent and acute, and the external one which assumes the same dilated form. *Blaps* is, however, less perfect in structure, having fewer joints in the palpi and posterior tarsi; the mandibles, mentum and lip, are very different, &c.

There are 3 British species: viz.

1. *B. gigas* Linn.—gages Fab., Panz. fasc. 96. n. 1.
2. *mortisaga* Linn., Panz. fasc. 3. n. 3.
3. *obtusa* Fab.

A single specimen of the magnificent *B. gigas* was found in the stump of a felled tree in 1824 on Portsea Common, and is now in the cabinet of J. H. Griesbach, Esq.

B. mortisaga, which is supposed to be the *Blatta* of Pliny, is found as early as April in dark and damp places, in churches, cellars, kitchens, &c. It has a very fetid scent, and, like *Acherontia Atropos*, has been regarded by the superstitious as an omen of misfortune. It is most tenacious of life, one having lived upwards of 3 years with Mr. H. Baker without food, and revived after having been kept in spirits of wine a whole night: this I have observed myself in *Coccinellæ*, two of which re-animated after being 24 hours in the same spirit.

No figure of *B. obtusa* having come to our knowledge, except indeed one of Schæffer's, it cannot be otherwise than useful, especially as it is often confounded with *B. mortisaga*. It is very much broader than that species, more convex, less shining, more coarsely and thickly punctured; the antennæ are much shorter, the female has no scutellum, and that of the male is nearly obsolete. It is not common, but has been abundant in stables at Norwich and cellars at Hertford in June.

Blaps sulcata, an Egyptian species (Latreille informs us), is employed by the Turks to alleviate pain of the ear, and to cure the sting of the scorpion. The women of Turkey also cook this insect in butter to fatten themselves.

The plant is *Helleborus viridis* (Green Hellebore), communicated by Professor Henslow.

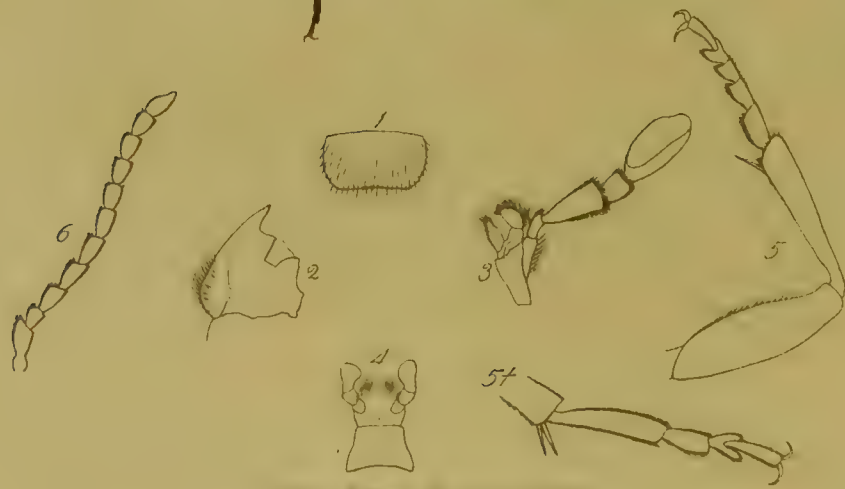


Fig. 1. 2. 3. 4. 5. 6. London 1825

MELANDRYA CANALICULATA.

ORDER Coleoptera. FAM. Melandryadæ *Leach*. Helopii *Lat*.

Type of the genus Chrysomela Caraboides *Linn*.

MELANDRYA *Fab.*, *Lat.*, *Gyll.*—Helops *Fab.*—Serropalpus *Ill.*—Chrysomela *Linn*.

Antennæ inserted before the eyes, rather short, filiform, 11-jointed, pubescent, basal joint somewhat larger than the 3rd, 2nd the smallest, the remainder gradually decreasing in length to the end, terminal joint subovate (fig. 6).

Labrum rather large, transverse-ovate, hairy (1).

Mandibles subtrigonal; very broad at their base, acute at the apex, having a square notch on the internal margin, covered by a membranous lobe; external surface hairy (2).

Maxillæ very small, bilobed, external lobe ovate ciliated, jointed near the base, internal smaller linear hairy. *Palpi* porrected, very long and large, 4-jointed, basal joint small, 2nd long, clavate truncate, 3rd subtrigonal, 4th large ovate, truncated obliquely and fleshy on the internal side (3).

Mentum very small, coriaceous, quadrate, dilated at the base.

Lip nearly as large as the mentum, cleft in the centre and thickly ciliated. *Palpi* attached to the lip, short, robust, 3-jointed, terminal joint the largest, compressed, dilated at the apex (4).

Head *nutant*. Eyes *ovate lateral*. Thorax *flat, subtrapezoid, broadest at the base, posterior margin sinuated*. Scutellum *triangular*. Coleoptera *subelliptic*. Wings *broad, scarcely longer than the body*. Legs *robust*. Tibiæ *simple spurred at their apex, those of the anterior pair being the smallest*. Tarsi *with the penultimate joints bilobed*; 4 anterior 5-jointed (5); posterior pair 4-jointed, basal joint long (5 †).

CANALICULATA *Fab. Ent. Syst. v. 1. pars 1. p. 119. n. 10.*—*Gyll. Ins. Suec. t. 1. pars 1. p. 535.*

Black with a bluish tinge, minutely punctured, covered with short black pubescence. Thorax subtrigonal, truncate, posterior margin sinuated, angles acute, an obscure channel down the centre and a fovea on each side at the base. Elytra with 4 longitudinal furrows, obliterated at the base, forming 5 elevated convex lines. Trophi ferruginous. Antennæ and legs piceous inclining to castaneous, the former lightest towards the extremity: the tarsi with the terminal joint ferruginous.

In the Cabinet of Mr. Bentley.

THE genus *Melandrya* was first established by Fabricius, who had before united it with *Helops*. Latreille in his early works formed a family of the *Helopii*, including *Helops*, *Melandrya*, *Serropalpus*, *Hallomenus*, *Orchesia*, *Pytho*, *Lagria*, and *Nilio*. In his "*Considérations Générales*" he has extended his family by uniting the *Tenebrionites*, *Diaperiales*, and *Helopii*, designating them by the former appellation; and in his "*Familles Naturelles*," *Melandrya*, *Conopalpus*, *Dyrcea*, *Hypulus*, *Serropalpus*, and *Nothus*, constitute the tribe *Securipalpi*, uniting the *Helopii* by the *Cistelides*, which appears to be natural, and is similar to the arrangement proposed by Dr. Leach. *Melandrya* is considerably allied to *Mycetocharus* Lat. in habit, and to *Serropalpus* &c. in œconomy. The mandibles present a character which we noticed in *Byrrhus*, and which obtains also in *Cantharis*—a notch on the internal side covered with membrane.

There are but 3 species of our genus recorded, 2 of which are British.

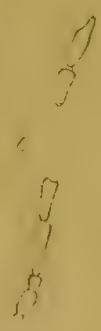
1. *M. Caraboides* Linn.—*serrata* Fab., Panz. 9. 3.

This is by no means an uncommon insect during the months of March, April, May, and June, under the bark of decaying trees, upon which probably the larvæ feed. I have found specimens also running upon the pollard willows in Battersea fields, and took one on the wing in Coombe Wood.

2. *M. canaliculata* Fab., Gyll.

The only British specimen at present known is the one figured, which was met with flying near Brockenhurst in the New Forest the middle of June 1823, by Mr. Bentley. The specimen agrees very well with Fabricius's description, except that the legs and antennæ are entirely piceous. Panzer's figure of it is by no means so good as his usually are; and the striæ converge to the suture, which if correct would separate ours from it: the same error, however, occurs in his figure of the other species in our copy of his *Faunæ Insectorum Germanicæ*.

The beautiful variety of *Symphytum officinale* (Common Comfrey) I gathered the middle of last September upon Sandown Marshes in the Isle of Wight; and at the same time I found several specimens with flowers of the richest purple, and others entirely green.



OMOPHLUS ARMERIÆ.

ORDER Coleoptera.

FAM. Cistelidæ.

Type of the Genus Cistela picipes Fab.

OMOPHLUS Meg., Dej., Sol.—Cistela Fab.

Antennæ inserted close before the eyes, half the length of the insect, slightly pubescent, 11-jointed, basal joint ovate, 2nd the smallest, somewhat cup-shaped, 3rd long, clavate, the following shorter, slightly increasing in breadth from being compressed, terminal joint as long as the third, subulate at the apex (6 portions of the base and apex).

Labrum pocket-shaped, ciliated, emarginate in front (1).

Mandibles rather slender, curved, acute, with an obtuse tooth on the inside at the middle, and a membranous margin ciliated above (2).

Maxillæ small, terminated by 2 elongated lobes, the internal one linear, a little curved, dilated at the back near the apex and ciliated, the outer one much larger, dilated towards the apex and clothed with hairs. *Palpi* much longer than the labial, clavate and 4-jointed, basal joint small, 2nd and 3rd long, narrowed at the base, 4th a little longer, broader, and somewhat hatchet-shaped (3).

Mentum transverse-ovate, *Labium* forming 2 large divaricating ciliated lobes. *Palpi* remote, arising from scapes at the anterior angles of the mentum, triarticulate, basal joint the slenderest, 2nd obtrigonal, 3rd large and somewhat hatchet-shaped (4).

Slightly depressed. Head subovate, being narrowed and elongated anteriorly: eyes small, lateral, remote. Thorax transverse, sides a little convex, the angles rounded: scutellum small, semioval. Elytra long, elliptical, rounded at the apex: wings ample. Legs of equal length: tibiae compressed, narrowed at the base, spiny outside, spurred at the apex: tarsi 5, 5- and 4-jointed, basal joint a little elongated in the anterior, 3 following turbinate; basal joint the longest in the hinder pair: claws rather long and pectinated beneath (5 a fore, † a hind tarsus).

ARMERIÆ Curt.—Guide, Gen. 263^b. 1.

Black, shining, thickly and minutely punctured, clothed with short erect hairs; trophi dull ferruginous; antennæ brown, the apex black; head and thorax with hoary hairs, the surface uneven, the former with a small fovea on the crown, the latter with a shallow channel down the centre, vanishing before, and terminating in a fovea behind; elytra testaceous, clothed with very short pubescence, with 8 or 9 shallow lines formed of punctures; tibiae more or less castaneous at the apex; tarsi pale chestnut.

In the Cabinets of Mr. Dale and the Author.

OMOPHLUS is very different in habit to *Cistela*, from which it has been removed by Megerle, and the variations in the trophi, the shorter antennæ, remote and small eyes and transverse thorax, render their separation necessary. This genus comprises a considerable number of species, principally inhabiting the South of Europe, and I know of none found so far to the North as that before us, unless it be one from Siberia, named by Gebler.

O. Armeriæ seems to be nearly allied to *Cistela picipes* of Fabricius, in which the base of the antennæ and the tibiæ alone are piceous, the elytra being testaceous; or it may be synonymous with Megerle's *Pinicola* or his *pallidipennis*, but not having access to his works I am unable to decide at present.

For specimens of this rare and interesting insect, which I have named from the plant to which it seems to be attached, I am indebted to my excellent friend Mr. Dale, who took them the 20th of last June on the flowers of the Thrift, at the Chesil Bank in the Isle of Portland. Mr. W. W. Saunders showed me a specimen of *Omophlus* taken in August, 1833, at Wyke near Weymouth, which I supposed at the time to be *curvipes*, but I have now no doubt that it was our new species.

The *Thrift* having been already published in pl. 298, the Plant now represented is *Polygonum Bistorta*, the Great Bistort.



CISTELA CERAMBOIDES.

ORDER Coleoptera. FAM. Cistelidæ.

*Type of the Genus, Chrysomela ceramboides Linn.*CISTELA *Fab.*, *Lat.*, *Gyll.*, *Curt.*—*Helops Fab.*—*Crioceris* and *Blaps Mars.*—*Chrysomela Linn.*—*Pyrochroa DeG.*

Antennæ generally longest in the males, shorter than the body, inserted before the eyes close to the base of the mandibles, filiform and 11-jointed, basal joint ovate, 2nd small subglobose, 3rd sometimes scarcely larger, in others as long as the 1st, 4th and following long, linear, compressed and narrowed at the base, sometimes serrated, especially in the males, terminal joint elongate-ovate (6, the base and apex).

Labrum semiorbicular, pilose, the margin slightly concave in the centre and ciliated with short bristles (1).

Mandibles subtrigonal, the apex curved and deeply cleft, forming two blunt teeth, one with a trigonal tooth also on the inside and a large membranous margin, pubescent and ciliated above (2, * the apex).

Maxillæ terminated by an ovate lobe, very hairy towards the apex, with a small one on the inside, ciliated with curved bristles. *Palpi* much longer than the labial, pilose and 4-jointed, basal joint elongated, rather curved, slender and clavate, 2nd long, stout, slightly tapering to the base, 3rd short, somewhat hatchet-shaped, 4th the largest, ovate, slender at the base and truncated very obliquely (3).

Mentum short, transverse, narrowed at the base, the anterior angles rounded and slightly notched. *Lip* as large and similar in shape, slightly cordate and densely pubescent, with very fine hairs. *Palpi* stout, a little hairy, remote, attached near the base, triarticulate, basal joint slender, chalice-shaped, 2nd stouter, obovate, 3rd very stout, hatchet-shaped (4).

Head narrow, subovate or elongate-trigonal, generally with a short neck: eyes small but prominent, lateral and reniform. Thorax wider than the head, semiorbicular, generally broadest at the base; scutellum triangular. Elytra broader than the thorax, elongated, rounded at the apex. Wings ample. Tibiæ spurred at the apex: tarsi 5, 5 and 4-jointed; anterior with the three first joints a little dilated in the males in some species, turbinate and very pubescent beneath, 3rd the smallest and cordate: claws long, curved and acute, serrated on the inside (5 ♂, a fore foot, † hind foot).—Obs. The dissections are taken from *C. castanea Mars.*

CERAMBOIDES *Linn.*—*Curt. Guide, Gen.* 265. 2.

Male narrower than the female: black, silky above with ferruginous pubescence; thickly and minutely punctured: thorax semiorbicular, the base bisinuated, the angles rather acute: elytra ferruginous-ochre with 8 punctured striæ on each, and an indistinct abbreviated one next the scutellum: tips of tarsi and claws ferruginous.

In the Author's and other Cabinets.

THIS group is nearly related to *Melandrya* (pl. 155), and if broken up it must be formed into many genera: *C. nigra* is a broad insect with the joints of the tarsi and antennæ abbreviated; *C. murina* is similar in form; *C. fulvipes* and *castanea* have the anterior and intermediate tarsi a little dilated; in *C. ceramboides* they are elongated and slender, and the antennæ are serrated in the male; and in *C. sulphurea* and *bicolor* the palpi are dissimilar in the sexes, those of the male being a little dilated. The larvæ of *C. nigra* and *ceramboides* live in decayed oak-trees, and are described and illustrated in the 1st vol. of the Ent. Trans.; and the larva and pupa of the former are figured in Germar's Mag., vol. ii. tab. 1, but they do not agree in form.

1. *nigra* DeG.—ater Fab.—Panz. 50. 3.—atrata Mars.—Eryx niger Step.

April and May, hedges and lanes, Mr. Samouelle; houses, Norwich; beginning of June, trunks of trees, New Forest; end of July, running upon willow-trees in the evening, at Windsor, Mr. Bainbridge; near Peterborough, Mr. Henderson; Cambridge, Mildenhall, Walthamstow, and Coomb Wood.

2. *murina* Linn.—Oliv. 3. n. 54. tab. 1. f. 13.—fusca Mars. var.—Panz. 25. 19.—maura Fab.—Euonymi Fab.—Panz. 34. 8?

June and July, common in hedges and underwood on *Senecio Jacobæa* and other syngenesious and umbelliferous plants, and "very abundant on flowers of *Rosa spinosissima*." Mr. Dillwyn.

3. *fulvipes* F.—erythrope Mars.—luperus Herb.—ferruginea F. β.

June, hedges; Aug. on Pines, Birch and Darent Woods; Bear Wood, Dorset, Mr. Dale; Hertfordshire and Dover.

4. *nigrita* Fab. "In the collection of the Rev. F. W. Hope." Ste.

5. *castanea* Murs. p. 223. n. 9.

End of May, Leigh Wood, near Bristol, Mr. Dale, and Devon; June and July, hedges and skirts of woods on *Cratægus Oxyacantha*, round London, and in Norfolk.

6. *ceramboides* Linn.—Curt. B. E. pl. 594 ♂.

Middle of June to middle of July, on Birch, Parley Copse, Dorset, Mr. Dale; near the river Pinsley, Leominster, Mr. Newman; Sydenham, Cambridgeshire, and Hertfordshire; Birch and Darent Woods, Mr. J. Standish, who generally beats it off the oak, but he has found it on the Maple.

7. *sulphurea* Linn.—Sam. Comp. pl. 4. f. 6.—Panz. 106. 8.

June and July on syngenesious and umbelliferous plants, especially the Carrot, in Norfolk; Belton Clay Pit, Yarmouth, Mr. Paget; Portland in plenty, Mr. Dale; Dover; Devil's Ditch, Cambridgeshire, and other chalky districts.

8. *bicolor* Fab.—Panz. 34. 6.

On umbelliferous flowers in Norfolk and near Dover, the middle of August.

The Plant is *Rumex Acetosella* (Sheep's Sorrel).



LAGRIA HIRTA.

ORDER Coleoptera.

FAM. Lagridæ.

*Type of the Genus, Chrysomela hirta Linn.*LAGRIA *Fab.*, *Gyll.*, *Curt.*—*Tenebrio DeG.*—*Cantharis Geof.*—*Chrysomela Linn.*—*Auchenia Marsh.*

Antennæ inserted on the inner margin of the eyes, slightly clavate in the female, hairy, 11-jointed, 1st joint short and ovate, but forming a knob at the base, 2nd small subobovate, 3 following elongated and slightly chopper-shaped, the 5 following shorter and rather remotely articulated, the 6th somewhat obtrigonal-ovate, 10th more ovate-truncate, 11th the longest, stoutest and elliptic-conic (6); twice as long as the head and thorax in the male and slenderer, the joints more elongated, with the terminal one very long (♂).

Labrum orbicular pocket-shaped, indented in the centre and ciliated with long bristles (1).

Mandibles suborbicular, truncated at the base, with the outer angle produced, the apex rounded, notched in one and forming a trigonate tooth in the other, with a large orbicular leathery lobe on the inside (2).

Maxillæ short, with an ovate internal lobe, and an external one not larger, both densely ciliated. *Palpi* long large hairy and 4-jointed, basal joint the slenderest and somewhat chalice-shaped, 2nd longer, stout obovate-truncate, 3rd shorter somewhat ovate-truncate, 4th very large, ovate, truncated obliquely (3).

Mentum elongated, subpyriform, truncated at the base, bisinuated before to receive the *Palpi* which are short stout and triarticulate, 2 basal joints very short, the 1st obtrigonal, 2nd ovate, truncated obliquely, 3rd longer subovate and very hairy. *Lip* short broad and very hairy (4).

Males slenderer than the females. Head orbicular: eyes rather large, lateral, vertical and kidney-shaped. Thorax not broader cylindric, subquadrate, a little narrowed before and the sides slightly emarginate towards the base. Scutellum small semiorbicular. Elytra twice as broad as the thorax, subelliptic, rounded at the apex, and a little inflated in the female. Wings ample. Legs moderate, not stout: tibiæ scarcely clavate and unarmed: tarsi pubescent beneath 5, 5 and 4-jointed, basal joint considerably the longest in the hinder pair, 2nd and 3rd short and obtrigonal in the others, penultimate bilobed, terminal joint slender clavate: claws rather long slender and acute (5, a fore leg, † hind tibia and tarsus).

HIRTA *Linn.* ♀.—*Curt. Guide, Gen.* 266. 1.—pubescens *Linn.* ♂.

Black, villose: head and thorax sparingly punctured, the latter with a transverse channel near the base in the male and a fovea on the disc in the female; elytra thickly and roughly punctured, semitransparent, ochreous, with the pubescence of the same colour; legs piceous.

In the Author's and other Cabinets.

GYLLENHAL places *Lagria* after *Anthicus pygmæus*, and it must be admitted that there is a great resemblance between them in general contour as well as in the structure of the antennæ, as shown in our illustration of *Xylophilus oculatus* (pl. 299.), but the trophi and tarsi are so different that there can be no real affinity. Latreille's location of *Lagria* in his *Genera Crustaceorum* seems to me far from a natural one, and I cannot think but it is much more nearly related to *Cistela* (fol. 594.) than to *Pyrochroa* (fol. 590.), next to which Latreille and Dejean have placed it in their last works: but after all it is the introduction of *Pyrochroa* possibly that renders this arrangement so unnatural to my mind, for if this were removed the views of the latter author would not be very different from my own.

The larva and pupa of *Lagria* are unknown, which is the more remarkable as the insects in their perfect state are most abundant, and our native one the *L. hirta* is found in May and June, in hedges, throughout England, but it is most attached, I believe, to the White-thorn and Hazel.

The *Lagriæ* are widely distributed over the whole world, inhabiting various parts of Europe and Africa to the Cape of Good Hope, and thence to Madagascar and New Holland.

The Plant is *Spiræa Filipendula* (Common Dropwort).



HYPULUS BIFLEXUOSUS.

ORDER Coleoptera. FAM. Melandryidæ *Leach.*—*Helopii Lat.*

Type of the Genus Hypulus Quercinus Payk.

HYPULUS *Payk.*—*Serropalpus Ill.*—*Dircæa Fab., Gyll.*—*Helops & Notoxus Panz.*

Antennæ inserted immediately before the eyes, scarcely so long as the thorax, submoniliform and pilose, slightly increasing in thickness to the apex; 11-jointed, basal joint a little longer than the 2nd and 3rd which are of equal length, terminal joint rather the longest and conical (6).

Labrum transverse, oval, coriaceous, pilose and ciliated (1).

Mandibles small, subquadrate or trigonate, tridentate, with a fleshy lobe on the internal side (2).

Maxillæ very small, terminated by 2 pubescent lobes, the external one the largest. *Palpi* large, 4-jointed, basal joint small, 2nd and 3rd pilose, subobtrigonal, 4th the largest, pilose, subobovate (3).

Mentum very small, subquadrate, anterior margin membranous.

Lip nearly as large, subquadrate; anterior margin slightly concave, with a tuft of hairs in the centre, angles rounded. *Palpi* attached to scapes, triarticulate, basal joint minute; 2nd large, subglobose, pilose; 3rd slender and oblong (4).

Head nutant. Eyes small. Thorax semioval, posterior margin slightly convex, angles obtuse. Scutellum subtrigonal. Elytra elongate-oval. Wings ample. Legs nearly of equal size, rather long and slender. Tibiæ spurred. Tarsi, 4 anterior 5-jointed, the posterior pair 4-jointed, in which the basal joint is the longest (5†); penultimate joint the smallest and emarginate. Claws small and bent (5, a fore leg).

Obs. The dissections and descriptions are taken from the insect figured.

BIFLEXUOSUS *Nobis.*

Pitchy black, shining, covered with yellowish pubescence; rather minutely but not deeply punctured. *Antennæ* ochreous at the base. Elytra with a waved interrupted fascia before, and another narrower beyond, the middle. Tibiæ obscure ferruginous; Tarsi of the same colour, ochraceous at their apex.

The longer line in the plate shows the superior length of the female, the thorax of which is broader in proportion.

In the Cabinets of Mr. Cooper, Mr. F. Walker, and the Author.

THE Hypuli and neighbouring genera are so very rare in this country, that I have not been able to obtain specimens for dissection, except of the species figured; but it is evident that the palpi (especially the labial) differ so considerably from those of Paykull's type, that our second and third species must form a division. The genus, and two of the insects, have never been noticed by any of our countrymen.

1. *H. Quercinus* Payk., *Faun. Suec.* 1. 252. 2.—*dubia* Fab., *Ill.*, *Panz.* 11. 3.

Twice as long as the following: thickly punctured and pubescent; black, elytra with a large spot at the shoulder, a double lunular one across the middle, and another near the apex ferruginous. Antennæ, mouth, and legs of the same colour.

Of this rare insect, two have been taken by Mr. Stone upon decayed stumps of oaks in Coombe Lane in June, and at Colney Hatch; and another by Mr. Jos. Standish at Darent.

2. *H. biflexuosus* Curtis *Brit. Ent. pl.* 255.

Mr. Cooper favoured me with the sight of a pair of this new species, which were beaten out of an oak by him in Highgate Wood last June; and Mr. F. Walker has kindly presented me with specimens which he found amongst grass in the neighbourhood of Southgate about the same time.

3. *H. 4-fasciatus* Nobis.

Brown, covered with depressed pubescence; legs, palpi, face, and base and apex of antennæ, ochreous; anterior and posterior margins of thorax, and two waved fasciæ on the elytra, of the same colour.

This insect may be the *Mordella bifasciata* of Marsham; but as Fabricius has a *Dircæa bifasciata*, should it be so, it would be necessary to alter the name of the species above described, to prevent confusion.

My specimen was taken by my brother several years since near Norwich in July; and I think I have seen other examples in London cabinets.

For fine specimens of the plant figured, *Orchis fusca* (Brown Orchis), I am indebted to Sir John Tylden of Milsted, Kent.



HALLOMENUS FLEXUOSUS.

ORDER Coleoptera. FAM. Melandryidæ or Helopii.

Type of the Genus, Dircaea humeralis Fab.

HALLOMENUS *Hellw., Payk., Gyll., Lat., Curt.*—*Dircaea Fab.*—*Serropalpus* and *Dinophorus Ill.*

Antennæ inserted in a cavity close to the inner margin of the eyes, longer than the thorax, slender at the base, pubescent and 11-jointed; basal joint rather small and ovate, 2nd the smallest, subovate, 3rd larger than the 1st elongate-obtrigonal, the remainder rather stouter but decreasing in length, more or less cup-shaped, terminal joint a little the longest and elongate-ovate (6).

Labrum transverse ovate, ciliated (1).

Mandibles subtrigonal, externally pilose, acute at the apex, with a square notch on the inside, forming a tooth below in one mandible, and an internal membranous lobe (2).

Maxillæ small terminated by 2 small pubescent lobes. *Palpi* rather large, pilose, and 4-jointed, basal joint small, 2nd and 3rd large obtrigonal, 4th the largest ovate-conic (3).

Mentum subcordate, concave at the base, sinuated before, leaving a triangular point in the middle. *Palpi* attached to 2 scapes, triarticulate, basal joint small, 2nd large subobovate, 3rd small and subovate. *Lip* oblong, with 2 bristles at the centre (4).

Head small subtrigonal, nearly concealed under the thorax: eyes rather small and lateral. Thorax semiorbicular-trigonal, somewhat depressed, the angles obtuse: scutellum semiorbicular. Elytra elliptical, slightly depressed, scarcely broader than the thorax. Wings ample. Legs compressed, hinder pair a little the largest: thighs short: tibiæ simple, furnished with minute spurs at the apex. Tarsi 5-jointed (5), posterior pair 4-jointed (†); anterior with the terminal joint the longest, but slender and clavate, 4th slightly cordate; posterior with the basal joint very long, the 2nd as long as the 4th, 3rd the smallest, subcordate. Claws slender acute.

Obs. The dissections and description are taken from the insect figured.

FLEXUOSUS *Payk.*—*Curt. Guide, Gen. 270. 2.*

Sericeous, minutely punctured; ferruginous-ochre: head black, lower part of face and palpi ochreous: antennæ black, excepting at the base and apex: thorax with a transverse black band not reaching the sides, a faint channel down the middle, and an impression on each side at the base; scutellum, a flexuose band before the middle, and a broader one beyond it, black: beneath black, excepting the thorax.

In the Cabinets of Mr. C. J. Thompson and the Author.

ALTHOUGH *H. flexuosus* is included by Paykull, Gyllenhal, Dejean and Sturm in the genus *Hallomenus*, it does not agree exactly with the type, which has the apical joint of the maxillary palpi subovate and truncated obliquely, the 3rd joint of the antennæ longer than the following, and the inner margin of the eye is distinctly notched. In their form they agree, being broader, flatter and shorter than *Hypulus*, to which they are most nearly allied, and to the second division of which *H. flexuosus* makes a near approach in structure.

1. *H. fuscus*? Gyll. *Ins. Suec.* 2. 528. 2.—*bipunctatus* Payk. var. β .

Length 2 to $2\frac{1}{2}$ lines. Sericeous, thickly and minutely punctured, brown above, ferruginous ochre beneath, antennæ palpi and legs ochreous, the latter bright and pale; eyes reniform, black; head with a faint channel on the crown: thorax with the sides ochreous, a shallow channel down the middle, and a distinct fovea on each side at the base: scutellum subquadrate: elytra with 7 or 8 indistinct impressed lines on each, the base except at the suture, ochreous.

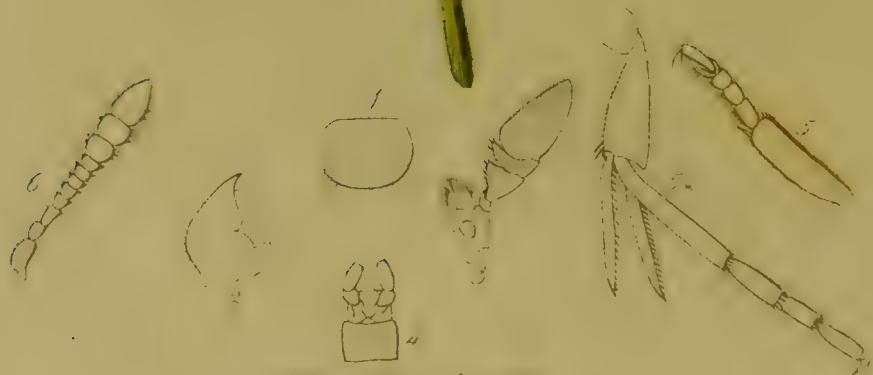
From the size I have some doubt if it be not a variety of the *H. humeralis* Fab.; but my specimens want the 2 black spots on the thorax.

This insect is common in Sweden in the fungi of trees; in England no one but myself has ever taken it, and I have been so fortunate as to capture two; the first I took many years since on the wing in the New Road, and the second flying in Montague Square, a little before sunset, the end of May 1832.

2. *H. flexuosus* Payk.—Curt. *Brit. Ent. pl.* 474.—*undatus* Panz. 68. 23.

For specimens of this pretty insect, which is quite a new discovery in Britain, I am indebted to my friend Mr. C. J. Thompson; they were presented to him by Mr. Frederick Kenrick, who took them the beginning of last July under the bark of a dead Willow-tree, by the side of a river near Peterborough. It is found also in Sweden in the fungi of trees, especially the Alder; and Mons. Foudras kindly added specimens to my cabinet, which he captured near Lyons.

The Plant is *Sisymbrium sylvestre* (Creeping Water-cress), from the banks of the river near Bottisham, Cambridgeshire.



ORCHESIA FASCIATA.

ORDER Coleoptera. FAM. Melandryadæ *Leach.* *Helopii Lat.*

Type of the Genus Dircæa micans Fab.

ORCHESIA *Lat.*—*Dircæa Fab.*—*Hallomenus Ill., Payk., Gyll., Panz.*
—*Serropalpus Ill.*—*Mordella Marsh.*—*Anaspis Lat.*—*Megatomma Herbst.*

Antennæ inserted between and close to the internal margin of the eyes, clavate, pubescent, 11-jointed, basal joint large ovate, 2nd short, 3rd longer, the 5 following shorter than the 2nd; increasing in diameter to the 8th, the remainder forming a robust club, the basal and 2nd joints turbinate, the terminal one the longest conical (fig. 6).

Labrum exserted membranous, suborbicular, pilose (1).

Mandibles small, corneous, subtrigonal, arched externally, notched internally, with a membranous dilated margin or appendage (2).

Maxillæ small bilobed, internal lobe dentiform, very pubescent, external larger rounded, very pubescent at the apex. *Palpi* large, very pubescent, 4-jointed, basal joint minute, 2nd large obtrigonal, 3rd transverse produced on the internal side, 4th very large, elongate trigonal (3).

Mentum small, quadrate coriaceous. *Lip* small membranous.

Palpi small and membranous, 3-jointed, basal joint small, united to the lip, 2nd short rhomboidal, 3rd elongate truncate (4).

Head *inflexed small.* Eyes *lateral reniform.* Thorax broad, *semicircular, posterior angles acute.* Scutellum *minute.* Wings *very ample.* Coleoptra *elongate ovate.* Legs *not very long, tapering, anterior the shortest.* Thighs, *posterior the most robust.* Tibiæ *spurred, intermediate pair the longest, posterior the shortest, broadest and armed with 2 very long spines serrated externally (5*).* Tarsi *1st and 2nd pair 5-jointed, penultimate joint bilobed (5, a fore leg): posterior 4-jointed, basal joint very long (5*).* Claws *small acute.*

FASCIATA *Payk.*—*Gyll. Ins. Suec. v. 1. pars 2.531.5.*

Minutely and thickly punctured, producing very short, depressed yellow pubescence. *Antennæ* ferruginous, fuscous towards the extremity. Eyes black. Head and thorax ferruginous, the latter with an impression at the base on each side; a black fascia arising from the centre of the base and arched to the sides, and a spot near the disc of the same colour. Elytra with the suture raised, ochraceous, a double blackish spot near the base, a sinuated slender arched fascia before the middle, not touching the margin, a broad blackish fascia beyond the middle with the margin sinuated, the apex blackish also. Legs ferruginous. Under-side piceous.

In the Cabinet of Mr. Dale.

ALTHOUGH these insects have been included in various Genera by different authors, the accurate characters laid down by Latreille in his admirable "*Genera Crustaceorum*," &c. will, without any difficulty, enable us to distinguish them from all others. The most obvious peculiarities are the long and curiously serrated spines attached to the short posterior tibiæ, which probably assist these insects to skip in the singular way they do when disturbed, very much in the manner of the *Mordellæ* and *Anaspides*.

There seem to be but two species known, both of which are inhabitants of Britain.

1. *O. micans* *Fab.*—*Payk.*—*Lat.*—*Panz.* 16. 18.—*picea* *Herbst.*—*Boleti* *Marsh.*—*clavicornis* *Lat.*

I once found this insect in abundance beneath moist *Boleti*, attached to the trunks of Elm-trees in Norfolk, in the month of June; and dropping as soon as the *Boletus* was touched, it became necessary to hold a net beneath, into which they fell and skipped about like shrimps.

2. *O. fasciata* *Payk. Nob.*

No figure of this pretty and rare Beetle having been before given, we are not *positive* that it is Paykull's insect, although there can be little doubt that it is a mere variety of that species.

Mr. Dale beat a specimen out of a White-thorn near Lyndhurst in the New Forest, the 1st of June 1824, and we believe that other specimens have been taken on the same ground.

The plant is *Malva moschata* (Musk Mallow).



Chrysomelidae

MORDELLA ABDOMINALIS.

ORDER Coleoptera.

FAM. Mordellidæ.

Type of the Genus, Mordella fasciata Fab.

MORDELLA Linn., Fab., Lat., Gyl., Mar., Curt.

Antennæ inserted close to the anterior margin of the eyes, shorter than the head and thorax, pubescent, slender at the base, 11-jointed, 3 first joints ovate, the first the stoutest, 4th elongate obtrigonal, the remainder broader, compressed and more or less obtrigonal, having a serrated appearance, the apical joint ovate (6).

Labrum semiorbicular, very pilose above (1).

Mandibles trigonal acute, bifid at the apex, with a membranous ciliated margin on the inside (2).

Maxillæ small, terminated by 2 lobes, the outer one dilated, rounded and very pubescent at the apex, the internal one shorter, subulcelate and pubescent on the inside. *Palpi* clavate and 4-jointed, basal joint minute, 2nd long clavate, 3rd subtrigonal, 4th large ovate hatchet-shaped (3).

Mentum dilated, horny and pilose at the base, narrowed anteriorly. *Lip* large subcordate, pubescent, deeply notched at the middle. *Palpi* clavate, pilose, biarticulate, basal joint subclavate, 2nd larger and ovate (4).

Head incurved subglobose: eyes remote and lateral. Thorax drooping, larger than the head, convex, transverse, sides rounded, base a little produced at the middle at the scutellum, which is small and triangular. Postpectus very large. Elytra scarcely broader than the thorax, oblong, slightly attenuated, and not covering the apex of the abdomen. Wings ample. Abdomen acuminate at the apex in both sexes, especially in the females. Legs short, 4 anterior slender and inserted close together under the thorax, posterior robust: thighs, hinder broad ovate: tibiæ, posterior elongate trapezate with 2 strong spines at the apex: tarsi simple, anterior 5-jointed (5), the 4th joint minute, 5th slender; posterior pair 4-jointed (†), basal joint long and stout, 3rd and 4th of equal length. Claws small, slightly pectinated beneath.

ABDOMINALIS Fab.—Curt. Guide, Gen. 273. 1.

Piceous black, covered with silky pubescence, minutely punctured: antennæ brown, 2 basal and the apical joints as well as the mouth ochreous. Thorax and abdomen orange, aculeus long and blackish. Elytra clothed with brown pubescence. Legs piceous, anterior pair orange, tarsi ochreous and brown.

In the Author's and other Cabinets.

MORDELLA is at once distinguished from Rhipiphorus (pl. 19,) by its simple antennæ, and from Anaspis, which it most re-

sembles, by the form of the penultimate joints of the anterior legs, which are not bilobed, by its distinct scutellum and acuminate abdomen. They inhabit flowers, especially the Umbellatæ, fly as well as run with celerity, and when alarmed draw their head close under the thorax, so that the mouth is concealed between the anterior coxæ.

The following are British species :

1. *M. abdominalis* *Fab.*—*Curt. Brit. Ent. pl.* 483.—*Oliv.* 3. No. 64, *pl.* 1. *f.* 5.

May, White-thorns and umbellate plants, the beginning and middle of June in the New Forest, but rare; near Swansea not uncommon, L. W. Dillwyn, Esq.

2. *M. pumila* *Gyl.* 2. 605. 2.

Middle of July, Bungay, Suffolk; and near Swansea on umbellate flowers.

3. *M. aculeata* *Linn.*—*Ol. pl.* 1. *f.* 1.

May and June, blossoms of Crab-tree and White-thorn, Mr. Samouelle, and near Swansea.

4. *M. ventralis* *Fab.*, *Gyl.*—*nigra* *Mars.*

10th of June, Blackwell Sands, Devon, Mr. Chant and Mr. Bentley, in company with the last, also in Kent.

5. *M. humeralis* *Linn.*—*Mars.*—*Panz.* 62. 3.

July, Coomb-wood, Surrey.

- 5^a. *M. axillaris*? *Gyl.* 2. 611. 8.

6. *M. variegata* *Fab.*, *Gyl.*—*lateralis* *Oliv. pl.* 1. *f.* 8.—*bicolor* *Mars.*—*dorsalis* *Panz.* 13. 15.

May and June, White-thorns Norfolk, but rare; also at Darent, Kent.

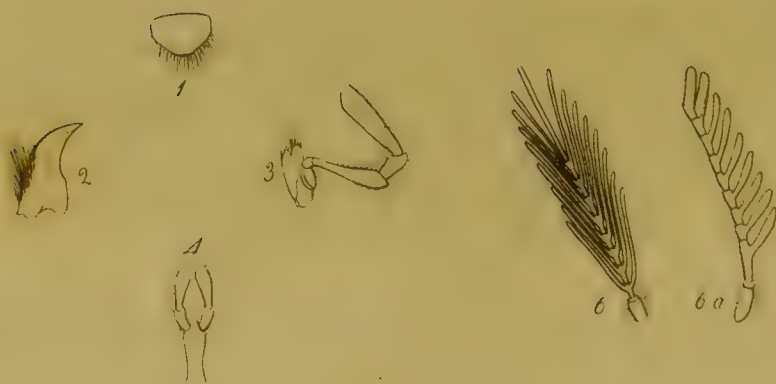
7. *M. brunnea* *Fab.*?—*Panz.* 36. 8. I gave this and the next as synonymous, on the authority of Schoenherr, but whether they be distinct or varieties only, I am unable to determine for want of specimens.

- 7^a. *M. flavescens* *Mars.* 490. 7.—*ferruginea* *Mars.* 490. 6.
May and June, White-thorns, Swansea.

8. *M. fasciata* *Fab.*—*Oliv. pl.* 1. *f.* 2.—*Sam. pl.* 4. *f.* 8.

Plentiful in the New Forest in June, where I found them on fine days flying round and running up dead decaying trees, that were standing, deprived of their bark. Mr. Dale has found them on the Teasel, and Mr. Bydder observed them flying about Oak-trees.

The Plant is *Viburnum Opulus* (Guelder Rose), to the flowers of which the Mordellidæ are much attached.



RHIPIPHORUS PARADOXUS.

ORDER Coleoptera. FAM. Mordelladæ Lat.

Type of the Genus Mordella paradoxa Linn.

RHIPIPHORUS Fab., Lat., &c. Mordella Linn.

Antennæ inserted between the eyes, distant, 11-jointed, basal joint largest, sub-obconic, second smallest, the 8 following in the males flabellate or bipectinated, terminal joint very long and filiform (f. 6.) : third joint longest in the females, singly branched, as well as the 8 following. (6. a.)

Labrum coriaceous, porrected, semioval, ciliated. (1.)

Mandibles arcuated, acute at apex, without teeth, hairy externally. (2.)

Maxillæ very small, slightly bilobed, ciliated : *Palpi* hairy, 4-jointed, first joint very small, second and fourth the longest, truncated obliquely. (3.)

Mentum elongated, narrow in the middle, terminating in a blunt point : *Palpi* 2-jointed, hairy, basal joint the smaller, terminal clavate. (4.)

Head cordiform, very small, not visible from above. Eyes not emarginate. Thorax very much arched, trilobed, the centre behind produced into a scutellary angle. Scutellum none or obscure. Body elevated, arcuate, laterally compressed, very acute. Elytra elongated, shorter than body, acuminate at apex, gaping. Wings folded, as long as body. Tarsi simple, posterior 4-jointed, the others 5-jointed ; middle and posterior legs longest. Tibiæ with spurs. Claws bifid at apex.

PARADOXUS Linn. Faun. Suec. 831. Fab. Ent. Syst. 1. pars 2. 111. 5.

Mars. Ent. Brit. 491. 9.

Black, pubescent, punctured. Thorax deeply and widely channelled in the centre, side lobes testaceous. Elytra testaceous in the male, black at the apex, black in the female slightly tinged with testaceous. Wings fuscous at apex. Abdomen orange, anus black, sometimes entirely black. Claws testaceous.

In the Author's and other Cabinets.

THIS beautiful and interesting insect, which is the only species that inhabits Britain, was considered a few years back one of our most valuable acquisitions, being only met with accidentally, from our ignorance of its habits and economy ; but having been discovered in its natural habitation by my friends Dr. Leach and W. S. MacLeay, Esq., the attention of naturalists was called to the subject, and it has since been taken

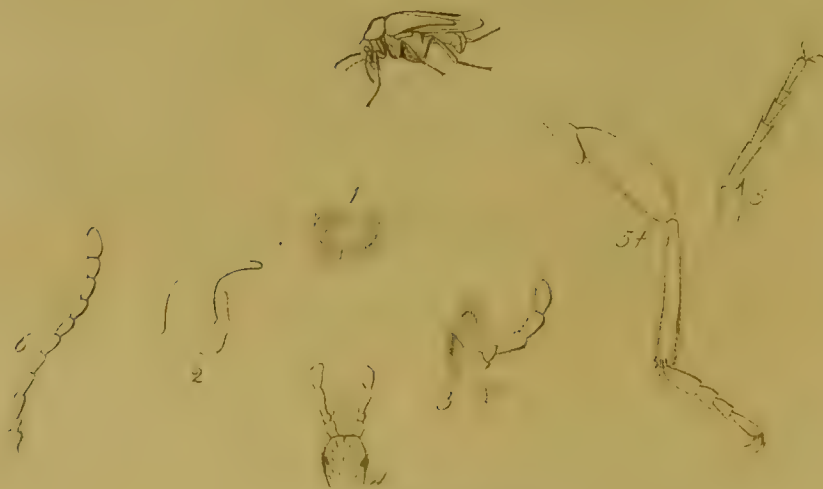
in profusion in Shropshire, by the Rev. F. W. Hope; and at Southgate, not uncommonly, by Mr. Edwin Walker, in August and September 1823, to whom I am indebted for the very fine specimens figured in the plate, which far exceed in size any that I have seen elsewhere; and this gentleman observed, that the individuals taken in August were much smaller than those that were captured later in the autumn. I have seen this insect alive in Norfolk: it has also been taken in Somersetshire; and my friend Mr. Dale found one in his orchard in Dorsetshire, which induced us to search for a wasp's nest, which we found in the neighbourhood; and having destroyed and dug it up, at night it was conveyed home in a vessel closely covered, and upon examination the next morning I had the gratification of releasing a male from one of the cells, the external figure of which was sexagonal, but the operculum was circular; and the same structure is exhibited in one that Mr. Stephens received from Mr. Hope.

The eggs must be deposited in the cells of the wasps, for which purpose the acute abdomen of the female is well adapted; and the larvæ, when hatched, are probably nourished by the wasps as their own offspring:—the perfect insect, from the smallness of its mouth and the weakness of its organs, cannot, however, be a very formidable enemy. When it emerges from the chrysalis, it leaves the nest and resorts to neighbouring flowers, like the rest of the *Mordelladæ*: the wasps therefore can sustain no other injury than that which arises from the few cells occupied by the larvæ.

The smaller figure in the plate (which is the natural size) is the female, and from its different colour was considered by Panzer a distinct species, which he called *R. angulatus*; the figure of the male is magnified, and is not only distinguished from the other sex by its colour, but by its beautiful flabellated antennæ.

The plant is *Achillea Millefolium* (Common Yarrow).





SITARIS HUMERALIS.

ORDER Coleoptera. FAM. Cantharidæ Lat.

Type of the Genus, Necdalis humeralis Fab.

SITARIS Lat.—Cantharis Geoff., Oliv.—Necdalis Fab., Forst., Don, Marsh.

Antennæ inserted upon the anterior margin of the eyes, clothed with very short hairs, longer than the head and thorax and rather attenuated to the apex in the male, the apical joint being as long as the 3d; shorter in the female and slightly thickened at the apex, 11-jointed, basal joint scarcely thicker than the following, 2d joint small, both somewhat chalice-shaped, 3d a little longer than the 1st, the remainder nearly of equal length, elongate obovate, slightly increasing in size, the apical joint being the largest and ovate (6).

Labrum coriaceous, very pilose above, nearly semiorbicular (1). *Mandibles* stout, very much hooked at the apex, with a long fleshy lobe on the inside below the middle, ciliated on the inner margin (2).

Maxillæ small, bilobed, very pilose, internal lobe rounded at the apex, external one longer larger and hatchet-shaped. *Palpi* long and comparatively robust, 4-jointed, basal joint small, the others of equal length, the 2d pyriform, 3d oblong, 4th subovate fleshy at the apex (3).

Mentum coriaceous, pilose and oblong, anterior angles truncated obliquely. *Palpi* attached to remote scapes, triarticulate, basal joint minute, 2d the longest, pubescent and clavate, 3d the largest subovate. *Labium* bilobed and very pilose (4).

Head *inflexed semi-orbicular*. Eyes *small, lateral and reniform*. Thorax *orbicular-quadrate*. Scutellum *large, notched at the apex*. Abdomen *thick, sometimes large in the female*. Elytra *shorter than the body, very much attenuated and divaricating towards the apex*. Wings *ample and folded at the apex*. Legs *rather long and slender*. Thighs *somewhat thick*. Tibiæ *simple, hinder pair the longest, furnished with very short spurs*. Tarsi *5-jointed (5), posterior pair 4-jointed, basal joint the longest, penultimate the shortest*. Claws *curved and acute, each being furnished at the base with a strong bristle (5† hind leg)*.

HUMERALIS Oliv. t. 3. No. 46. pl. 2. f. 20. Marsh. 359.—muralis Forst. p. 48.

Black, shining: head and thorax coarsely thickly but irregularly punctured, the latter with a deep impression in the centre from the middle to the base: elytra thickly and minutely punctured, pale piceous with a violaceous tint, ochraceous at the base: wings fuscous slightly iridescent.

Obs. The outline figure exhibits a female in profile of the natural size, the male is slightly magnified.

In the British Museum and other Cabinets.

IN the First Volume of this work (pl. 19), the *Rhipiphorus paradoxus* was figured, an insect nearly related in structure and economy to the one just described.

The *Rhipiphorus* inhabits wasps' nests; the *Sitaris* we learn from Latreille lives in the nidus of solitary bees, and is often found dead in them. When I was at Lyons last summer, Mons. Foudras, who takes the *Sitaris* in abundance, informed me that he found it in the nests of *Anthophora hirsuta* and *A. acervorum*.

Fabricius gives it as an English insect, and it appears to have been common in this country sixty or seventy years back by the remark of Forster, who states that it was frequent upon garden walls; and I think Dr. Stephenson found one in such a situation a few years since at Eltham in Kent. Within the last year or two I understand, it has again been found in abundance under a water-butt in a garden at Chelsea.

The plant represented is *Scrophularia vernalis* (Yellow Figwort), gathered at Mitcham in Surrey, and communicated by J. J. Bennett, Esq.



ŒDEMERA SANGUINICOLLIS.

ORDER Coleoptera. FAM. Cantharidæ.

Type of the Genus, Necydalis cærulea Linn.

ŒDEMERA Oliv., Lat., Sam., Curt.—Cantharis Linn., Mars.—Necydalis Linn., Fab., Gyl.

Antennæ inserted before the eyes, not so long as the body, filiform and pubescent; 11-jointed, basal joint the stoutest, curved and subclavate, 2nd ovate, the remainder long and slender, 3 terminal joints a little shorter, the last sometimes suddenly contracted at the middle, making the apex more slender (6).

Labrum exserted, transverse-ovate, slightly emarginate and hairy, ciliated at the margin (1).

Mandibles subtrigonal, externally pilose, bifid at the apex, with a coriaceous margin produced on the inside, the edge ciliated (2).

Maxillæ terminated by two horny lobes, the internal one very pubescent towards the apex and furnished with a few curved bristles; the external lobe long, distinctly articulated at the base, and clothed with long curved hairs at the apex.

Palpi long and stout, pubescent, 4-jointed, basal joint small, 2nd long and subclavate, 3rd shorter, 4th nearly as long as the 2nd, dilated towards the apex and truncated obliquely (3).

Mentum subquadrate, the angles rounded. *Lip* hairy forming two divaricating lobes. *Palpi* long and pilose, attached to two scapes inserted behind the mentum, triarticulate, basal joint short, 2nd and 3rd longer, of equal length, the former subclavate, the latter broader, compressed, ovate-truncate (4).

Head broadest at the base, depressed, the clypeus slightly produced.

Eyes lateral and prominent. Thorax oblong ovate, narrowed towards the base. Scutellum minute. Elytra long and narrow, sometimes subulate. Wings ample. Thighs; hinder sometimes exceedingly incrassated in the male. Tibiæ posterior sometimes robust and slightly curved in the male (5†). Tarsi; 5-jointed, posterior 4-jointed, basal joint the longest, penultimate bilobed.

SANGUINICOLLIS Fab. Ent. Syst. 1. pars 2. 351. 6.—flavicollis Panz. 24. 18.—ruficollis Sam.—fulvicollis Curt. Guide, Gen. 276. 6.

Brassy black, shining, pubescent, thickly punctured: *Antennæ* dull black, 3 basal joints ochreous on the under side, as well as the base of the palpi. Thorax orange, excepting the breast which is black, obovate, truncated before and behind, with a deep fovea on each side the centre, and one at the base, the posterior angles a little produced. Elytra elliptical, completely covering the body, dull olive-green, thickly and roughly punctured, with 4 elevated lines on each.

In the Author's and other Cabinets.

THIS genus bears considerable resemblance at first sight to a group called Stenopterus and separated by Illiger from Mo-

lorchus; and the flat and lengthened clypeus is very like that of *Stenostoma* of Latreille. The *Ædemeræ* fly remarkably well, and generally frequent flowers: they may be thus divided.

* Posterior thighs incrassated in the males.

1. *Æ. Podagrariæ* Linn. S. N. 2. 642. 9. *mas.*—simplex L. S. N. 643. 10. *fem.*—Don. 10. 358. 2.

The *N. melanocephala* of Panzer is referred to this species by Gyllenhal, but it is a totally different insect which I have taken at Fontainebleau; it is much more like the female of the next species in size and form.

Æ. Podagrariæ has been taken from the 5th May to the 1st Aug.: it is attached to umbellate plants and derives its name from the *Ægopodium Podagraria*, but it is also found in houses being attracted by light in the evening. Mr. Dale has taken specimens at the roots of apple-trees, and in cucumber frames at Glanville's Wootton; found also in Norfolk, Suffolk, at Bideford, Ashburton, &c. Devon.

2. *Æ. cœrulea* Linn. F. S. 716.—Don. 16. *pl.* 558.—Sam. *pl.* 2. *f.* 28.—clavipes Gyl.—flavipes Oliv. ?—ceramboides Mars.

This handsome but common insect Mr. Dale has observed from the 29th May to the 4th Aug. It frequents umbelliferous and syngenesious flowers and those of the bramble, and is very extensively distributed.

3. *Æ. marginata* Fab.—femorata Panz. 36. 12. ♂.—subulata Oliv. ♀.

It is recorded that Mr. Haworth possesses a British specimen of this or some kindred species.

** Posterior thighs simple in both sexes.

4. *Æ. lurida* Mar. 360. 6. Gyl.—Is found from the beginning of June to the middle of August, in most parts of the kingdom in grassy places.
5. *Æ. viridissima* Linn. F. S. 717.—thalassina Fab. ?—cœrulescens Oliv. 3. n. 50. *pl.* 2. *f.* 17 ?

Found from May to the middle of June on flowers in Chalk-pits, Kent, in White-thorn flowers in the New Forest, and at Glanville's Wootton. I once took a considerable number out of a decayed tree at Barham in Suffolk.

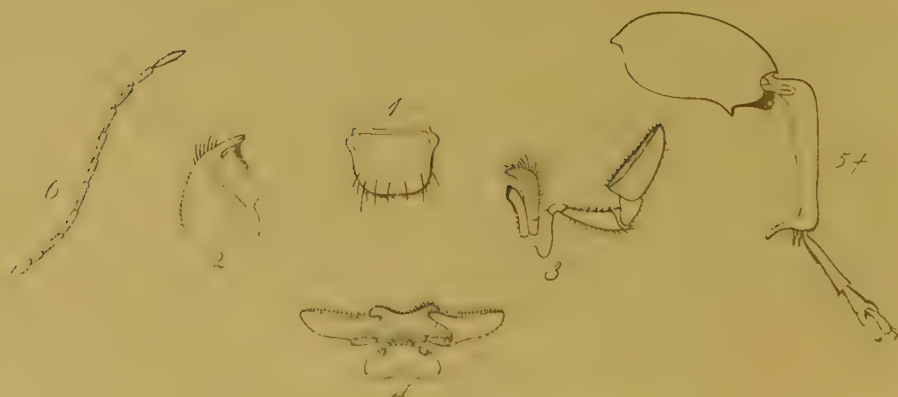
6. *Æ. sanguinicollis* Fab.—Curt. B. E. *pl.* 390.

This handsome and distinct species is found in the blossoms of the white-thorns in the New Forest; near Bristol; and in Ireland.

7. *Æ. melanura* Linn.—Oliv. 3. n. 50. *t.* 1. *f.* 8.—nigripes Fab.—acuta Mar.—Lepturoides Gyl.—notata Pk.

Taken in June and July generally in the vicinity of timber and frequently by the water side. It has occurred on the banks of the Thames in London; at Chatham; in Norfolk; on the banks of the Humber near Hull; at Bristol; and in Oxfordshire.

The Plant is *Nardus stricta* (Small Matweed.)



NOTHUS BIPUNCTATUS.

ORDER Coleoptera.

FAM. Cantharidæ.

Type of the Genus, Cantharis bipunctatus Fab.

NOTHUS Zieg., Dej., Meg., Curt.—Osphyra and Pelecina Ill.—Ædemera Lat.—Dryops? Schö.—Cantharis Fab.—Zonitis Meg.

Antennæ longer than the head and thorax, filiform and slender, inserted upon the internal margin of the eyes, clothed with short bristly hairs, 11-jointed, basal joint the stoutest, clavate, 2nd small ovate, 3rd and following long slender and subclavate, the terminal joint subfusiform, being suddenly narrowed towards the apex (6).

Labrum quadrate at the base with the angles produced and semitransparent, semicircular before, ciliated and producing a few long hairs (1).

Mandibles subtrigonal, externally hairy with a sharp and bifid apex, the internal margin hollowed and filled with a broad membrane, produced into a small lobe at the apex and ciliated (2).

Maxillæ minute, formed of 2 lobes, the internal one linear and pubescent, especially at the apex, the external lobe much larger, hook-shaped and very pilose. *Palpi* larger than the labial, 4-jointed, basal joint small, 2nd long and stout, narrowed at the base, 3rd obtrigonal, 4th very large and somewhat bowl-shaped, but compressed and attached by the side (3).

Mentum small, semicircular. *Lip* rather large, membranous, pubescent and cordate. *Palpi* attached to small scapes arising from beneath the anterior margin of the mentum, triarticulate, basal joint small and curved, 2nd longer and clavate, 3rd very large pubescent and bowl-shaped (4).

Head suborbicular: eyes lateral prominent and reniform. Thorax suborbicular or transverse-ovate, the sides a little reflexed: scutellum semioval. Elytra very long and elliptical. Wings ample. Legs rather short: thighs incrassated in the male, especially the hinder pair which are subovate, with a tooth beneath near the apex: tibiæ simple with minute spurs at the apex, the posterior thickened in the male, with a notch on each side of the base, covered with a membrane, the apex produced on the inside and forming a strong obtuse spine: tarsi, 4 anterior 5-jointed, posterior 4-jointed, basal joint the longest, especially in the hinder pair, penultimate bilobed, terminal clavate: claws strong and trifid, the central claw being the longest (5 † hind leg of male).

BIPUNCTATUS Fab.—Curt. Guide, Gen. 277. 1.

NOTHUS was considered by Latreille to be related to the Ædemeræ, but it appears to me to be closely allied to Conopalpus (Zonitis Brit. Ent. pl. 112.); and although Dejean has placed them in different families with 3 or 4 tribes between them, I expect they are sufficiently analogous to be received into the same family, and this will be best shown by comparing the dissections in pl. 112 with those of the one before us, when it will be seen that the slight differences in the trophi cannot be deemed more than generic: the tarsi are very similar, and the claws considerably so, and it is merely in the absence of a joint

in the antennæ in *Conopalpus* that any essential difference can be detected; and the only claim the *Edemeræ* appear to have to our genus arises from the male having its thighs incrassated.

The following are the descriptions of the specimens before us; but great uncertainty exists respecting the species and their sexes, and I am inclined to think that *N. clavipes* is the male: the small dark insect in our plate being also a male, is probably merely a *variety* of the same with simple posterior legs, and the other insect figured (*T. bipunctatus* Fab.) I believe to be the female of the same species, and this is rendered still more probable by the varieties recorded in Schönherr.

A considerable number of both sexes have been taken within the last few years, principally on the white-thorns when in flower, in the vicinity of Monk's Wood, and formerly at Windsor, in May. I understand they stick so fast to the bushes that they are detached with great difficulty, which may be one reason of their being seldom seen. The trifid claws are well suited for catching hold, and the thickened hind legs of *N. clavipes* are astonishingly strong and well adapted for holding fast: at the base of the tibiæ I observed a notch on each side, covered by a membrane, most likely for the action of muscles that draw the tibiæ close to the underside of the thigh, which with the little spine beneath it and the hook at the apex would enable it to hold very fast to a leaf or branch, and even in attempting to open these in a relaxed specimen, the coxa was forced from the socket before I could accomplish it.

N. clavipes Ill.—*Schön. Syn. App. 3. p. 7.*

Male piceous black with grey pubescence, thickly and minutely punctured; mouth, 3 basal joints of antennæ, entire margin of thorax and sometimes an abbreviated line down the back, and external margin of elytra pale ferruginous; sides and tips of the latter free from pubescence; base of thighs and of tibiæ ferruginous, the former very much incrassated in the hinder pair and the tibiæ hooked at the apex (fig. 5 †); apex of abdomen orange beneath. Gyllenhal describes a var. β . with the thighs entirely black.

Male smaller and similar, but the base of the thighs and tibiæ are ferruginous-orange, the latter black at the base and the posterior legs are simple. For the loan of this specimen (the right-hand figure in the plate) I am indebted to A. Matthews, Esq., who took it and another, which has "a slender longitudinal yellow stripe on the thorax," on the blossoms of the White-thorn, at Weston-on-the-green, in May 1830.

N. bipunctatus Fab.—*Curt. Brit. Ent. pl. 538.*, left-hand figure.

Female tawny ochre, thickly and minutely punctured and clothed with very short pubescence; antennæ black, 3 basal joints head and thorax rufous; eyes, 2 spots adjoining them on the crown of the head, 2 on the back of the thorax and tips of the elytra black; legs ochreous-orange, with a black spot above at the apex of the thighs, and the posterior entirely black at the tips, as well as the tibiæ; tarsi fuscous, anterior ochreous, penultimate joint and tip of terminal one fuscous: pectus black, clothed with grey pubescence.

Gyllenhal also describes a "var. β with the elytra black, the exterior margin pale". *Schön. Syn.*

I think Mr. Matthews has taken *N. bipunctatus*, and last summer Mr. G. A. Wright captured it at Scarborough, but the specimen figured is from Mr. Shuckhard's Cabinet.

The Plant is *Gnaphalium rectum* (Upright Cudweed).



Chrysothrix fuscicornis (L.)

ZONITIS TESTACEA.

ORDER Coleoptera. FAM. Cantharidæ Lat., Leach.

Type of the Genus Zonitis præusta Fab.

ZONITIS Fab., Lat., Panz. Melyris Oliv. Dasytes Schön.

Antennæ inserted close to the anterior margin of the eyes, rather long, pubescent, more compressed in the males than females; 10-jointed, basal joint small, 2nd very minute, 3rd clavate-truncate, 4th and following of the same form, but longer, terminal joint elongate ovate (6).

Labrum very pilose, semicircular, produced at the posterior angles (1).

Mandibles small, corneous, at the apex, which is bifid, coriaceous at the base which is dilated, with a large membranous lobe on the internal edge, pubescent at the apex, external margin pilose (2).

Maxillæ small, coriaceous, bilobed, internal lobe linear, very hairy towards the apex, external membranous and hairy at the apex. *Palpi* long and robust, pilose, 4-jointed, basal joint small, 2nd large subclavate, 3rd trigonate, 4th very large, elongate-conic, pubescent (3).

Mentum pilose, quadrate, slightly dilated at the base. *Palpi* large, hatchet-shaped, arising from 2 scapes with a small hairy process between them, 3-jointed, 1st joint short, 2nd longer, incurved, clavate, 3rd large hairy, attached obliquely, having the lower internal angle produced. *Lip* large membranous, pubescent rounded, notched in the middle (4).

Head *inflexed*. Eyes *vertical*, not touching the thorax, kidney-shaped. Thorax *transverse*, rounded very short beneath to receive the head, Scutellum *distinct*. Coleoptera long, oval. Wings long. Tibiæ simple long slender, with 2 spines at their apex. Tarsi of 4 anterior legs 5-jointed, basal joint the longest, 2nd and 3rd short obtrigonate, 4th bilobed (5): posterior 4-jointed, basal joint very long, 2nd obtrigonate, 3rd bilobed (5*). Claws *bidentate*.

TESTACEA Oliv. Entom. v. 2. n. 21. plate 3. fig. 15. a, b.

Ochraceous, minutely punctured, villose, shining. Head inclining to rufous. Eyes and apex of mandibles black. Antennæ black, excepting the 3 basal joints which are ochraceous.

In the Author's and other Cabinets.

THE opinion that has hitherto prevailed in this country, that our insect belonged to Zeigler's genus *Nothus*, cannot be main-

tained, since the incrassated posterior thighs of one sex and the arcuated of the other, are characters that are wanting in the species under investigation. We have placed it with *Zonitis*, as it agrees tolerably well with Latreille's definition in his *Considérations Générales*, page 215, where he has given *Z. præusta* Fab. as his type, and separated those species with lengthened maxillæ, which he there calls *Nemognatha*. When the oral organs of the whole genus have been carefully examined, it will probably be found expedient to form 2 divisions. The antennæ of our species are composed of 10 joints only, I believe, in both sexes; the remarkable form of the labial palpi appears to be not uncommon amongst this and neighbouring genera, but whether the singular form of the mandibles be general I am not able to say for want of other species for dissection.

Although Mr. Stephens detected a solitary specimen of *Zonitis testacea* in the cabinet of the late Mr. Marsham, it has never before been recorded as a British insect, and its name and economy were equally unknown.

During a visit to Dorsetshire in the autumn of 1820, I found a larva in the decayed stump of a tree, which I gave to my friend Mr. Dale, who discovered the beginning of the following March, that it had changed to our insect;—a valuable fact, which proves its affinity in economy to the *Ædemeridæ* of Latreille: we have since been favoured with specimens from Mr. Bennet and Mr. Stone; and last year it occurred in some abundance upon the oaks and white-thorns in the New Forest the end of June and beginning of July.

In the British Museum there is a single unlabelled specimen of another species, of which we know neither the name nor the history.

Vinca minor (the Less Periwinkle) is introduced in the plate.





PYROCHROA COCCINEA.

The Cardinal Beetle.

ORDER Coleoptera.

FAM. Pyrochroidæ.

Type of the Genus, Pyrochroa rubens Fzb.

PYROCHROA Geoff., Fab., Lat., Gyll., Curt.—Cantharis Linn.

Antennæ inserted before the eyes, rather short, pectinated internally in the males, 11-jointed, basal joint elongate-ovate, 2nd short obovate, 3rd and 4th large somewhat obtrigonal, the remainder of similar shape, with the internal apex considerably produced in the males (6), apical joint the longest, slightly clavate and curved.

Labrum transverse, semiorbicular, slightly emarginate and ciliated with hairs and bristles (1).

Mandibles broad, narrowed, curved and bifid at the apex, with a leathery ciliated lobe on the inside (2).

Maxillæ small, the internal lobe a little falcate and ciliated, the other larger, ovate and very pubescent. *Palpi* porrected, rather large, pubescent and 4-jointed, basal joint small, truncated obliquely, 2nd long stout clavate and pilose, 3rd shorter and hatchet-shaped, 4th as large as the 2nd compressed, somewhat ovate-conic, narrowed at the base (3).

Mentum lunate. *Lip* rather elongated, subcordate, deeply cleft and pubescent. *Palpi* short and slender, attached to large globose scapes at the base of the lip, composed of 3 oblong joints, basal one a little the longest, 3rd rather the shortest, slightly obtrigonal, being truncated (4).

Depressed. Head, trigonal, with a short narrow neck: eyes lateral, oblique, kidney-shaped. Thorax transverse-ovate: scutellum small and subtrigonal. Elytra very long and broad, a little dilated beyond the middle, the apex rounded. Wings very ample. Legs moderate; tibiæ slightly clavate, spurs very minute: tarsi 5, 5 and 4-jointed, basal joint rather the longest in the hinder pair (5†), 2nd and 3rd obtrigonal, 4th cup-shaped and bilobed, 5th elongated, slender and clavate: claws simple and curved (5, a fore leg).

COCCINEA Linn.—Curt. Guide, Gen. 279. 2.

Shining black; upper side of thorax and elytra intense scarlet and densely pubescent; a curved ferruginous mark between the eyes.

In the Author's and other Cabinets.

FROM Ahrens' observations published in Silbermann's Revue, we learn that the larvæ of *P. coccinea* are found under the bark of Birch-trees and in the trunks of decaying Oaks; some are full grown in April, whilst others have not attained half

their size, and he concludes they are 3 years going through their different metamorphoses; they remain in the pupa state 14 days. The *larva* is depressed long and linear, of a pale brownish ochre, the antennæ are distinct, it has 6 pectoral feet, and the apex is terminated by 2 recurved spines. The *pupa* is similar in colour, but elongate-ovate, tapering towards the tail.

The affinities of these beautiful insects seem difficult to determine. Latreille in his *Genera Crustaceorum* placed *Pyrochroa* between *Calopus* and *Ripiphorus*; in his *Considérations Générales* its station is between *Dendroides* and *Scraptia*, and in his two last works it connects the *Lagridæ* and *Mordellidæ*. Excepting the legs and ample elytra I can see little affinity between *Pyrochroa* and *Lagria*, and the *Mordellidæ* form a very distinct family, distinguished by biarticulate labial palpi and attenuated elytra. The trophi of *Pyrochroa* are certainly most like those of *Sitaris* (pl. 340.), and it makes a considerable approach to the Genus *Pytho* in habit.

Two species of *Pyrochroa* are found in England.

1. *rubens* *Fab. Panz.* 95. 5.—*coccinea* *Don.* 2. *pl.* 56. *f.* 1.

Shining black; head, excepting the eyes, and thorax, excepting the breast, scarlet; scutellum and elytra of the same colour, the latter densely clothed with depressed pubescence. Length 5 to 7 lines.

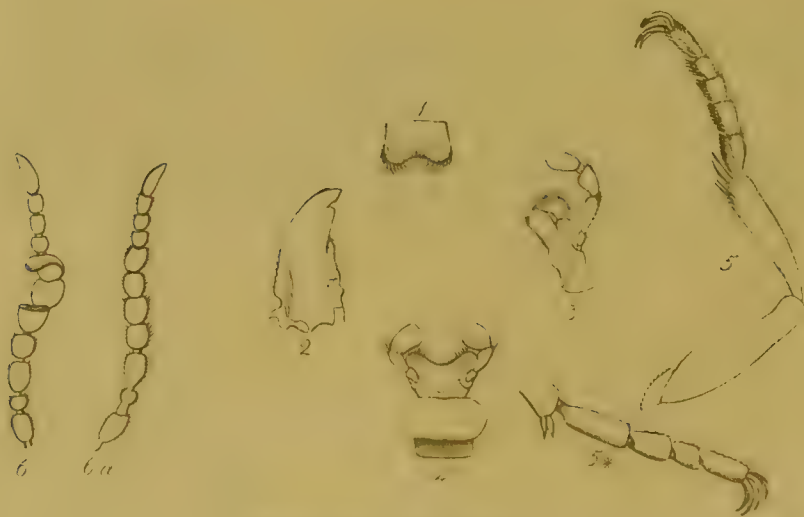
This, which is the rarest species on the Continent, is common in most parts of England. It has been taken in May and June from Cumberland to Dorsetshire in hedges of White Thorn, the flowers of which it inhabits. I think I found the larva under the bark of an Oak-tree at Rougham last May; it was of a piceous colour, and my friend Mr. Clark of Thetford showed me some of the beetles that were taken out of a block of wood.

2. *coccinea* *Linn.*—*Curt. B. E. pl.* 590. ♀.—*rubra* *Don.* 11. *pl.* 383.

This species is at once distinguished by its bright scarlet colour, black head and scutellum. Mr. Dale and I have found it occasionally the end of May and beginning of June on stumps of trees in the sunshine in the New Forest; at Bexley, Birch, and Darent Woods it has occurred as late as July I believe.

The Plant is *Thymus Calamintha* (Common Calamint).





MELOE BREVICOLLIS.

The short-necked Oil-beetle.

ORDER Coleoptera. FAM. Cantharidæ *Lat., Leach.**Type of the Genus, Meloe proscarabæus Linn.*MELOE *Linn., Fab., Oliv., Panz., Leach, &c.*—*Proscarabæus Geoff.*

Antennæ inserted between, and close to the interior margin of the eyes, longer than the thorax, filiform or incrassated, sometimes irregular in form in the males, 11-jointed, basal and 3rd joints of equal size, ovate, 2nd smaller, globose, 4th subglobose, 5th larger, cylindric, 6th inserted at the edge of the former, large and compressed, 7th dilated and incurved, and from the back rises the 8th joint which is smaller and subglobose, as are also the 9th and 10th, the terminal joint elongate-conic (6). In the females the 4th and three following joints are sometimes large and subovate-truncate (6 a).

Labrum thick, transverse, emarginate, pilose above, the anterior angles rounded and producing curved bristles (1).

Mandibles large, strong and bent, with a slight shoulder above and a deep notch below the apex, which is truncated; a membranous and ciliated lobe on the internal side with an obscure tooth near the base (2).

Maxillæ corneous, terminal lobe articulated, lunulated and ciliated with curved bristles; internal lobe coriaceous and densely pubescent. *Palpi* rather long, subclavate 4-jointed, basal joint small, 2nd rather the longest, clavate-truncate, 3rd ovate-truncate, 4th subovate (3).

Mentum transverse-oval, narrowed and deflexed at the base.

Labium large, cordate, and pilose anteriorly. *Palpi* attached near the lateral margins, subsecuriform, triarticulate, basal joint minute, 2nd obtrigonal pilose, 3rd wedge-shaped (4).

Head suborbicular, vertical, as broad or broader than the head. Clypeus slightly produced. Eyes inclining to kidney shape. Thorax quadrate or suborbicular. Scutellum none? Elytra generally covering only a portion of the body, oval, crossing at the base, diverging towards the apex. Wings none. Abdomen large, oblong, conical and soft, especially in the females. Legs long robust and very hairy. Tibiæ spurred, often shorter than the Tarsi which are densely pilose beneath, and 5-jointed (5), the posterior pair 4-jointed (5*), the basal joint being rather the longest. Claws long, each divided to the base so as to form 4 distinct ungues.

BREVICOLLIS *Panz. fasc. 10. n. 15:—Linn. Trans. v. 11. pl. 6. f. 9.*

Male. Bluish-black. *Antennæ* short, moniliform. Head broader than the thorax, subtrigonal-ovate, coarsely punctured. Thorax transverse oblong, broadest at the base, the angles rounded, coarsely punctured, with a slight channel down the middle. Elytra covering the body, rugose.

Female. Rather more inclining to blue, the head and thorax sometimes tinged with green. Elytra not covering the body.

In the Author's and other Cabinets.

THERE still exists so much obscurity respecting the larvæ of *Meloe*, that I can only give a sketch which will enable my readers to search for themselves; and it is very surprising that no one in this country should have reared them from the eggs.

We learn from DeGeer that the eggs are oblong, of a pale orange colour, and are deposited in the earth in a cluster in May, and the larvæ are hatched the month after. These appear to be parasitical on other insects, for he placed some flies with them, and remarked that the larvæ attached themselves in great numbers to the thorax of the *Diptera*, which speedily perished. Bees also are subject to their attacks, and MM. Lepelletier and Servile appear to have confirmed DeGeer recently by breeding the same animals from the eggs of *Meloe*. On the other hand Mr. Kirby is disposed to think that his *Pediculus Melittæ* (*P. Apis* Linn.?) is not the larva of *Meloe*; and M. Leon Dufour has even formed them into a *genus* under the name of *Triungularis andrenetarum*, and a figure of one is given in the 13th volume of the “*Annales des Sciences Naturelles*.”

Mr. W. S. MacLeay, relying on the accuracy of DeGeer, seems to regard these little animals as typical of the *Thysanuriform* larva, which marks one of his five great divisions of the *Coleoptera*.

The following are our British species.

I. Antennæ thickened and distorted in the middle.

1. *M. violaceus* Mar.—April, May, and June; meadows and sunny banks, feeding upon the stalks of chickweed and other plants.
2. *M. proscarabæus* Linn.—vulgaris Ste.—Found with the last.
3. *M. tectus* Panz.—June, woods, Hampstead.
4. *M. autumnalis* Oliv.—glabratus Lea.—punctatus Mar.—End of August and beginning of September, near Exmouth, Devon, Mr. Newman.

II. Antennæ simple.

5. *M. brevicollis* Panz.—cephalotes Curt. mas.—April, meadows, Devon. Taken also near Christchurch, Hants, by the Rev. T. Cooke, to whom I am indebted for the male figured; and beginning of May, Windsor Forest, Mr. Alexander Griesbach.
6. *M. cicatricosus* Lea.—April and May. Grassy banks, Southend, Margate and Ramsgate.
7. *M. variegatus* Don.—April and May. Feversham and Margate.
8. *M. punctatus* Fab.—*Tuccia Rossi*.—rugosus Mar.—autumnalis Lea.—August, Margate. Middle of October, on Syngenesious plants and in a chalk-pit, and on a grassy bank 2nd April, at Ramsgate, Mr. Hanson.

By consulting the British Museum cabinet, I find that Dr. Leach has corrected an error that occurred in his *Monograph* in the 11th volume of the *Linnæan Transactions* (where the species are all figured), and which misled me, when I lately published the genus in the “*Guide*,” at which time also I believed the insect figured to be a new species; and it is so different in many respects to the Museum specimens, which are females I believe, that had it not been for an authentic German one I should still have considered it to be distinct. The plant is *Cistus Helianthemum* (*Dwarf Cistus*).





CANTHARIS VESICATORIA.

The Blister-beetle or Spanish-fly.

ORDER Coleoptera.

FAM. Cantharidæ.

Type of the Genus, Meloe vesicatorius Linn.

CANTHARIS Geoff., DeGeer, Curt.—Meloe Linn.—Lytta Fab., Marsh.

Antennæ inserted before the eyes at the base of the clypeus, considerably longer than the head and thorax especially in the males? filiform, naked, 11-jointed, 3 basal joints metallic, 1st the longest and stoutest, pear-shaped, truncated obliquely, 2nd small somewhat cup-shaped, the remainder thickly punctured, elongate-ovate, the apical joint longer and ovate-conic (6).

Labrum exserted, transverse pocket-shaped, sides rounded and bristly, anterior margin concave, coriaceous and bristly (1).

Mandibles strong, subtrigonal, blunt at the apex, a quadrate notch on the inside at the middle, with an ovate fleshy lobe covering it internally (2).

Maxillæ terminating in 2 large ciliated lobes. *Palpi* short stout pubescent and 4-jointed, basal joint small, 2nd elongate-obovate, 3rd similar but shorter, 4th a little the longest and stoutest, ovate-conic (3).

Mentum transverse-ovate, the base straight. *Lip* rather large, subquadrate, coriaceous, the margin very pubescent. *Palpi* inserted on each side near the middle of the lip, clavate, triarticulate, basal joint minute, 2nd the longest, clavate, bristly outside, 3rd the broadest obovate (4).

Head *large subcordate*: eyes *small lateral, remote from the base*.

Thorax *not larger than the head, transverse, narrowed at the base*: scutellum *subtrigonal*. Elytra *very long, linear and convex, the costa slightly margined*. Wings *ample, the tips folded*. Legs *rather long and stout, hinder the longest*: tibiae *clavate, terminated by a pair of spurs, short in the hinder, with one dilated* (5 †); tarsi *compressed, 5, 5 and 4-jointed, terminal joint as long as the basal, except in the hinder*: claws *strong, hooked, bifid, being cleft to the base*; (5 a fore, † a hind leg).

VESICATORIA Linn.—Curt. Guide, Gen. 281. 1.

Bright green, sometimes golden or copper coloured; antennæ, excepting the 3 basal joints, dull black: head and thorax sparingly punctured and slightly pubescent, the former with a dorsal channel, the latter with several depressions: elytra finely rugose, with 2 elevated lines on each: tarsi blackish.

In the Author's and other Cabinets.

CANTHARIS VESICATORIA is not only a handsome but a useful beetle, being invaluable for its medicinal and vesicatory properties when employed as a stimulant or to produce blisters; for these purposes it is collected in Spain for exportation, and is an important article of commerce. In visiting the South of France where two species of the curious and beautiful *Cero-coma* were abundant, also *Epicauta verticalis*, Ill., and six or seven species of *Mylabres*, I expected frequently to meet with *C. vesicatoria*, but I found only one specimen and Mr. Walker took 2 or 3 others. In England it is reckoned a rare insect, yet occasionally it makes its appearance in vast quantities. The following extract from Drury's Illustrations of Nat. Hist. will show that its visits were at remote periods in his time: "I have seen," he says, "in the cabinet of a very curious lady, sister to Ralph Willet, Esq. of Dean Street, Soho, not less than 40 of this species (the Spanish-fly), being taken near his seat at Morley Place near Wimbourne in Dorsetshire, where she informed me they were found in great plenty during the month of June or July, frequenting the privet-trees. I have also found them in the environs of London, but not plentifully."

I remember five or six specimens having been taken in and near Norwich about twenty years since, and Mr. T. Desvignes tells me that a very great number were found in a wood near that city last year, when it seems to have made its appearance in many parts of the kingdom, specimens being found near Christchurch in Hampshire and Colchester in Essex by Dr. Maclean, who gave me a beautiful example more tinged with copper than our British specimens usually are; I am also indebted to Mr. L. Brock for a very fine series, varying greatly in size, selected from several hundreds found feeding on the Weeping-ash, I believe in the same neighbourhood. Linnæus says that *C. vesicatoria* inhabits the Privet, Ash, Elder, Lilac, and Honey-suckle, upon the leaves of which it feeds. The larvæ live in the earth and eat the roots of plants.

In the 9th vol. of the *Annales du Musée* is an admirable memoir by M. Audouin, upon the anatomy, &c. of this valuable beetle.

The Plant is *Hippocrepis comosa*, Tufted Horse-shoe Vetch.



LYMEXYLON NAVALE.

ORDER Coleoptera. FAM. Cantharidæ.

*Type of the Genus, Cantharis navalis Linn.*LYMEXYLON *Fab., Oliv., Panz., Lat., Curt.*—*Pterophorus Herb.*—*Cantharis Linn.*

Antennæ inserted before the eyes, rather short very pilose and 11-jointed: *male* with the basal joint curved, 2nd globose, 3rd shorter and slenderer than the 4th which is as long as the 1st, the remainder subovate-truncate, slightly decreasing in length to the last, which is a little the longest and sub-conic (6): rather stouter in the *female*, especially towards the middle, the 3 basal joints being slenderer than the following, the apical one suddenly narrowed from the middle to the apex (6 ♀).

Labrum transverse-oval, slightly produced in the centre, pilose and ciliated with bristles (1).

Mandibles trigonate, acute, externally pilose, with a small membranous and pubescent margin on the inside (2): sinuated on the inside in the *female*, with a membranous pubescent lobe at the middle (2 ♀).

Maxillæ very minute (3 a, the base) terminated by a rounded and pilose lobe, with a narrower one on the inside (b). *Palpi* very large, 4-jointed, basal joint minute, 2nd large funnel-shaped, receiving and concealing the basal portion of the 3rd, which produces several large branched appendages, cylindric and wrinkled, clothed with short hairs externally, with very long internally, 4th joint rather small and conical (c): robust and pilose in the *female*, 4-jointed, basal joint small, 2nd large, sub-obtrigonal, 3rd cup-shaped, 4th larger than the 2nd ovate-truncate (3 ♀).

Mentum very small oblong. *Lip* short. *Palpi* pilose, apparently attached to scapes, triarticulate, basal joint minute, 3rd the largest, globose-ovate (4). *Palpi* remote in the *female*, basal joint small, 2nd not quite so stout as the apical one which is ovate. *Lip* subtrigonal, the angles rounded and pubescent (4 ♀).

Male much smaller than the female. Head vertical, suborbicular: neck short. Eyes rather small, prominent and pubescent. Thorax small oblong, semicylindric. Scutellum rounded. Elytra narrow, subulate, divaricating at the apex and shorter than the body. Wings rather ample. Abdomen very long, linear, depressed and ovate at the apex, the *female* having the ovipositor sometimes exerted. Legs slender. Thighs compressed, rather short and broad. Tibiæ simple. Tarsi 5-jointed, anterior the shortest, basal joint longer than the 2nd and following, which are very pubescent beneath, 5th the longest and slender; in the other feet, the basal joint is the longest. Claws small and acute (5).

NAVALE *Linn, Faun. Suec.* 204, 718.—*Panz.* 22. 5. *fem.*—*flavipes Fab. mas.*—*Panz.* 22. 6. *Curtis's Guide, Gen.* 276^a, 1.

In the Cabinet of Mr. J. H. Griesbach.

THE genus *Lymexylon* is one of those types of form, the natural location of which it is difficult to determine. Its soft texture, the drooping head and small thorax, as well as the antennæ which are generally thickest in the middle, severally offer strong resemblances to *Sitaris*, *Cantharis*, &c., but the 5-jointed tarsi have induced M. Latreille to place it between the *Cleridæ* and *Ptinidæ*.

One of the most remarkable circumstances however is the great difference in the structure of the trophi in the sexes: the mandibles are dissimilar, and the internal lobe (which induced me to arrange *Lymexylon* with the *Cantharidæ*) is more developed in the female; in this sex the labial palpi are remote, and the lip of a different form to that of the male, but the most striking dissimilarity exists in the maxillary palpi, which are simple in the female, but branched like coral in the male. I believe their curious structure has never before been correctly represented or described: in our Plate fig. 3 *a*, is the base of the maxilla, *b* the two terminal lobes, and *c* is placed at the base of the palpus.

There is little doubt, I think, that the palpi or feelers are in most instances for retaining the food whilst the insect tears it to pieces and masticates it; but to say why the male should be enabled to do this in a better or different way to the female, if their food be the same, is at present a mystery.

The larvæ of the *Lymexylons* feed upon timber, especially the oak, which they perforate and destroy. Turton has recorded our species as British, but no authentic specimen was known until the female figured was taken by Mr. J. H. Griesbach in Windsor forest on an oak-tree in July 1829, and I am indebted to him for the loan of it. It is said to be rare in France and common in the north of Europe; it is therefore probable that other specimens may be detected in this country.

L. navale Linn.—Curt. Brit. Ent. pl. 382.

Female shining, thickly and minutely punctured, clothed with very short pubescence, ochreous; antennæ brown subfusiform: palpi ochreous: head black, strongly and very thickly punctured: thorax rufous, subovate: elytra piceous towards their tips, the same colour extending along the lateral margin nearly to the shoulders, each elytron with two obscure longitudinal elevated lines: wings deep fuscous, iridescent: abdomen inclining to orange at the apex, the penultimate joint blackish, margined with orange, a stripe of the same colour down the centre and one on each side.

Male smaller and black, antennæ brown: elytra dark fuscous, the base ferruginous: abdomen slightly ochreous at the apex: legs ochreous, tarsi fuscous: the shorter line in the Plate shows the length of a male I received from Germany.

The Plant is *Orobanchæ cærulea* (Purple Broom-rape).



HYLECÆTUS DERMESTOIDES.

ORDER Coleoptera.

FAM. Cantharidæ?

HYLECÆTUS *Lat., Dej., Curt.*—*Lymexylon Fab.*—*Cantharis Linn.* ♀.
—*Meloe Linn.* ♂.

Antennæ inserted before the eyes, a little longer than the head, pubescent, compressed, slightly serrated, not much longer than the head, 11-jointed, basal joint obovate, 2nd the smallest subglobose, 3rd the longest in the male (6), the remainder obtrigonal, the 6th and following a little produced on the inside, apical joint almost as long as the 3rd, ovate-conic: rather shorter and stouter in the female and tapering to the base and apex (6 ♀), 3rd joint obovate-truncate.

Labrum exserted, small, transverse, the sides rounded, the centre slightly produced, the margin ciliated (1).

Mandibles short, trigonate, hairy outside, slightly bidentate at the apex with a minute notch on the inside (2).

Maxillæ small, with an acuminate lobe on the inside and an ovate one at the apex, both ciliated. *Palpi* very large in the male (3), 4-jointed, basal joint minute obtrigonal, 2nd more cup-shaped, 3rd large, irregularly cup-shaped, with a large double series of simple filaments united like ribs and inserted on the outside at the base: simple in the female (♀ 4), basal joint minute, 2nd elongated, clavate, 3rd subovate, 4th oblong compressed.

Mentum minute subquadrate. *Lip* as large as the mentum.

Palpi very much smaller than the maxillary in both sexes, yet much longer than the lip (4), pubescent, triarticulate, basal joint subovate, 2nd cup-shaped, 3rd a little the largest and subovate, oblong in the female.

Head orbicular slightly nutant: eyes small globose and lateral. Thorax transverse, a little narrowed before: scutellum subtrigonal truncate. Elytra very long and linear, nearly covering the abdomen. Wings ample. Legs moderate, slender: tibiae, anterior rather the shortest and stoutest, hinder with very minute spurs: tarsi rather long, slender and 5-jointed, basal joint long, the following decreasing in length, the apical joint longer: claws curved acute (5, a fore leg).

DERMESTOIDES *Linn.*—*Curt. Guide, Gen.* 281^c. 2nd edit.—*Marci Linn.*—proboscideum *Fab.*?

Pubescent, shining, minutely punctured; elytra with 4 indistinct, slightly elevated lines down each. Male black, the antennæ brown, legs ochreous; or with the elytra ferruginous and the apex fuscous. Female bright and deep ochreous: eyes black; antennæ fuscous, except at the base; breast and base of abdomen fuscous.

In the Cabinets of Mr. T. Desvignes, Mr. Shuckard, and the Author.

THE males of this remarkable insect, like those of *Lymexylon* (pl. 382), are characterized by large and extraordinary palpi, and the great length of the elytra renders it unnecessary for the wings to be folded, or at most only at the apex ; but although they agree in these respects, the serrated antennæ of the genus before us will enable the student to distinguish it from *Lymexylon*.

I have on a former occasion given my reasons for placing these insects with the Cantharidæ, but at the same time if natural affinities could be found amongst the Pentamera I should prefer associating them with that tribe. Latreille places *Hy-leccætus*, *Lymexylon*, and *Atractocerus* between *Malachius* and *Tillus*, and the Baron Dejean between the *Cleridæ* and the *Ptinidæ*. These are all timber-feeding genera, and the *Hy-leccæti* seem to be attached to the birch.

H. dermestoides, although stated by Latreille to inhabit this country, and recorded by Stewart as being found in old neglected woods, was not considered an indigenous species until last year, when Mr. Thomas Desvignes took six males and one female on the 1st of May in Sherwood Forest, Nottinghamshire, in that portion called Birkland Wood, near Ollerton. It was about noon that he saw them flying round one of the old Birch-trees, upon which they alighted and then ran quickly up and down the bark. The only female he found was of a bright ochreous colour ; several of the males had somewhat ferruginous elytra with their apex fuscous, like the one represented in the plate ; but he took two entirely black, excepting the legs, one of which he obligingly added to my Cabinet.

The Plant is *Actæa spicata*, Herb Christopher, from specimens which Mr. T. Howson showed me growing at Malham Cove, Yorkshire.





ANTHICUS TIBIALIS.

ORDER Coleoptera.

FAM. Cantharidæ or Anthicidæ.

*Type of the Genus, Meloe Antherinus Linn.*ANTHICUS *Fab., Payk., Curt.*—Notoxus *Ill., Lat.*—Lytta *Mars.*—Meloe *Linn.*

Antennæ inserted before the eyes, on each side of the clypeus, as long as the head and thorax, pubescent and pilose, a little thickened towards the apex, 11-jointed, basal joint the stoutest and oval, 2nd the slenderest, short and obovate, 5 following shorter than the 1st; elliptic-truncate, 8th, 9th and 10th more ovate-quadrate, 11th as long as the 1st; apex conical (6).

Labrum transverse-ovate, anterior margin slightly concave and pubescent, surrounded by long hairs (1).

Mandibles trigonate, the apex acute and bifid; a narrow membranous margin on a portion of the inside, with a quadrate notch below the middle (2).

Maxillæ small, terminating in 2 short, densely hairy lobes, outer one the largest and ovate. *Palpi* large and securiform, pubescent and 4-jointed, basal joint small, 2nd long, sublinear, 3rd short and cleaver-shaped with a long bristle on the inside, 4th very large and ax-shaped, the apex thickened (3).

Mentum corset-shaped. *Palpi* short, attached to short scapes, biarticulate, basal joint somewhat obovate, 2nd longer broad and ovate (4).

Head orbicular-quadrate, attached by a distinct neck, the clypeus narrowed: eyes rather small, prominent and lateral. Thorax not broader than the head, obovate-cordate: scutell minute. Elytra twice as broad as the thorax, and 4 times as long, elongate-ovate, not covering the apex of the abdomen. Wings ample. Legs rather short: trochanters, anterior with a tubercle, hinder with a tooth beneath: thighs, anterior short and stout, hinder narrower and compressed: tibiæ with minute spurs, hinder the longest, sometimes dilated at the apex: tarsi 5, 5 and 4-jointed, basal joint short in the anterior (5), the 2nd and 3rd shorter and obcordate, 4th bilobed, 5th clavate and the longest; basal joint very long in the hinder (†), 2nd as long as the terminal, the 3rd bilobed: claws small and acute.

TIBIALIS *Curt. Mss.*—*Guide, Gen.* 283.

Shining piceous with a bluish tinge, firmly punctured, base of head and thorax castaneous-red, excepting the fore part of the latter: elytra with ochreous pubescence, the base sometimes castaneous: mouth antennæ and legs fulvous, thighs pitchy-chestnut; hinder tibiæ dilated towards the extremity, which is concave internally and ochreous, as well as the base, the middle being black.

In the Cabinets of Mr. Spence, Mr. Rudd, and the Author.

THE simple form of the thorax distinguishes this group from Notoxus; and the proportions of the labial palpi, the 3rd joint of which is not cup-shaped, as well as the tarsi, are very different to those of Xylophilus, fol. 299.

The Anthici are lively little beetles, that are generally found in warm and sheltered situations; but in the South of France I observed several pretty species much smaller than ours, running up the trunks of trees. The following are native species.

1. *Antherinus* Linn.—Panz. 11. 14.

June, on flowers at Hertford; rare at Earsham in Norfolk, May, in great abundance under rejectamenta at Tollsbury, Essex, J. C.: May, June, and July, on mud, Glanville's Wootton and Puddimore, Somerset, and Thorne Moor, Yorkshire, Mr. Dale: very abundant under rejectamenta, Isle of Wight, Rev. G. T. Rudd.

2. *quadrinotatus* Gyl. 2. 498, 8.

"Captured within the metropolitan district in June."

3. *ater* Payk.—Panz. 31. 15.

April, Southend; and 13th May several under stones near the Chesil-bank, Portland, J. C.; and in June, Mr. Dale.

4. *fuscus* Mars.—*floralis* Panz. 23. 5.

Very abundant from April to November on dunghills, hotbeds, and under rejectamenta; Mr. Dale generally meets with it flying.

5. *floralis* Linn.—*formicarius* Oliv.

May, flowers in gardens; beginning of August on *Trifolium*.

6. *equestris* Panz. 74. 8.

"June, near London and in Devon, as well as the next."

7. *gracilis* Kug.—Panz. 38. 21.

8. *angustatus* Curt.—*humilis* of Ahrens is a different species.

Elongated and narrow, the thorax obovate; mouse-coloured, with ochreous pubescence, thickly and rather strongly punctured; back of head and thorax bright rufous when alive, disc of the latter afterwards fuscous; antennæ and legs ochreous-chestnut, underside partaking of the same colour: length 1 line.

I found two in September floating in a rill running down the Cliff, at Blackgang Chine.

9. *constrictus* Rudd's Mss.

Shining piceous, firmly punctured; thorax compressed behind, with a transverse channel; elytra finely pubescent, with a castaneous line at the apex, sometimes with a bright ferruginous spot divided by the suture; mouth, antennæ and legs fulvous; apex of former sometimes fuscous; middle of thighs and hinder tibiæ piceous; $1\frac{1}{3}$ line.

June and August, under rejectamenta near Ryde, Rev. G. T. Rudd.

10. *tibialis* Curt. Brit. Ent. pl. 714.

Mr. R. H. Spence first gave me this very distinct species, which he took under rejectamenta near Netley in October; and Mr. Rudd has taken it near Ryde in June.

I am indebted to T. C. Heysham, Esq., for *Oxyria reniformis* (*Rumex digynus*), Mountain Sorrel, who sent it from Borrowdale.



XYLOPHILUS OCULATUS.

ORDER Coleoptera. FAM. Cantharidæ *Curt.* Anthicides
Lat.

Type of the Genus, Anthicus oculatus Payk.

XYLOPHILUS *Bon., Lat.*—Aderus *West., Step.*—Anthicus *Fab., Payk., Gyl.*—Notoxus *Panz.*—Lytta *Marsh.*—Cerambyx *DeG.*

Antennæ of the male (6), inserted below the eyes, as long or longer than the body, very pilose, filiform, 11-jointed, basal joint the shortest, excepting the 2nd which is quadrate, the remainder of equal length, somewhat funnel-shaped, truncate at both ends, having a serrated appearance when curved, terminal joint very long, dilated a little and acuminate at the apex: those of the female (6a), inserted close to the internal margin of the eyes, half the length of the body, slightly incrassated towards the extremity, the joints more or less cup-shaped, the terminal one elongate-ovate.

Labrum semiorbicular, sparingly clothed with hairs (1).

Mandibles bifid at the apex, pilose externally, with the internal margin membranous and transparent (2).

Maxillæ small, terminated by a semilunar pubescent lobe, with a small linear one on the inside, having a fascicle of curved bristles at the apex. *Palpi* very long, 4-jointed, basal joint slender and curved, 2nd long and subclavate, 3rd pilose subovate, 4th very large, somewhat cup-shaped, pilose, truncated and spongy at the extremity (3).

Mentum transverse, the angles rounded. *Lip* rather long and membranous, dilated and pilose at the apex. *Palpi* inserted near the middle, contiguous, triarticulate, basal joint minute, 2nd small obovate, 3rd large cup-shaped, the apex truncated, spongy and pilose (4).

Eyes very large and coarsely granulated, especially in the male, in which sex they approximate in front. *Thorax* semioval, narrower than the head. *Scutellum* minute. *Elytra* twice as broad as the thorax, elongate-ovate, somewhat depressed towards the base. *Wings* very ample. *Legs* slender. *Thighs*; hinder pair incrassated. *Tibiæ* spurred. *Tarsi*; 4 anterior 5-jointed, basal joint long, 2nd and 3rd lobed internally, 4th minute, forming the base of the 5th which is clavate (5); basal joint very long and strongly ciliated beneath in the middle pair (5*); posterior pair 4-jointed, basal joint very long, 2nd lobed internally, 3rd very minute, 4th clavate (5†). *Claws* simple.

OCULATUS *Payk.*—*Gyl.* 2, 501, 11.—*nigricollis Marsh. fem.*

Male: Castaneous, shining, clothed with yellowish pubescence.

Head and *thorax* black punctured, the latter with a transverse impression towards the base. *Elytra* linear, rounded at the apex, coarsely and irregularly punctured. *Trophi*, *Antennæ* and 4 anterior legs ochreous-ferruginous. *Female*: *Elytra* elongate ovate.

In the Cabinets of Mr. Griesbach, Mr. Walker, and the Author.

LATREILLE in his "Familles Naturelles" has stated that *Anthicus populneus* is the type of Bonelli's genus *Xylophilus*; and that insect being unknown to me when my "Guide" was printed, the little group to which it belongs, there formed a part of the genus *Anthicus*.

In the trophi, *Xylophilus* so closely resembles *Conopalpus* (pl. 112), that it is evident they belong to the same family: the antennæ, however, are eleven-jointed in the former; and the penultimate joint of the tarsi, which Latreille did not detect, is very minute instead of being bilobed.

To complete the genus I shall describe the other two species that inhabit Britain, but the second I do not possess.

1. *X. Populneus* Fab.—Panz. 35. 4.—Gyl. 2. 500. 10.

Antennæ with the 2nd and 3rd joints subglobose, testaceo-ferruginous, very finely and obscurely punctured, clothed with a fine silky pubescence; head sometimes blackish; base of elytra and a fascia in the middle, denuded of pubescence.

This insect receives its name from living beneath the bark of poplars: but Mr. F. Walker has found specimens at Southgate upon the leaves of elm-trees in summer, and in the winter in an old oak, as well as under the bark of a horse-chestnut-tree; and to his kindness I am indebted for the sexes.

2. *X. pygmæus* DeG.—Gyl. 2. 502. 12.—ferrugineus Payk.
—melanocephalus Panz. 35. 5.—Boleti Mar. p. 486.

Fusco-testaceous, distinctly punctured, finely pubescent; antennæ elytra and feet paler, thorax short, transversely impressed. Gyl.

DeGeer found it in woods in June. Marsham says it inhabits *Boletus retulinus*, and that the larvæ and imago were living together.

3. *X. oculatus* Payk.—Curt. Brit. Ent. pl. 299, mas.

Mr. J. H. and Mr. Alexander Griesbach have liberally presented me with specimens of this rare insect, which they took off willows near Windsor last July. Mr. Kirby, I believe, has met with it in Suffolk, and Mr. Walker has found it at Southgate upon a lime-tree.

The plant is *Scleranthus annuus* (Annual Knawel).

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PTINUS SEXPUNCTATUS.

ORDER Coleoptera.

FAM. Ptinidæ.

Type of the Genus, Ptinus Fur Linn.

PTINUS Linn., Fab., Curt., &c.

Antennæ as long or longer than the body in the male, shorter and stouter in the female, inserted near the middle of the face, approximating, rather stout, filiform, hairy and 11-jointed, basal joint stout and ovate, 2nd small, pear-shaped, 3rd not longer than the 1st, the remainder long and linear, terminal joint conical at the apex (6).

Labrum suborbicular, a little narrowed before, slightly emarginate and densely ciliated with long hairs (1).

Mandibles subtrigonal, convex and hairy outside, the apex acute with a short tooth on the inside, beneath which the margin is ciliated (2).

Maxillæ with an obtuse spine at the insertion of the palpi, apex terminating in 2 rounded lobes densely ciliated. *Palpi* rather long clavate pubescent and 4-jointed, basal joint long and slender, 2nd and 3rd stouter, of equal length, the former obovate, the latter truncated, 4th equal in length to all the others, very stout and subfusiform, the apex rounded (3).

Mentum somewhat semicircular. *Lip* elongated, dilated and ciliated in front. *Palpi* attached to the centre of the anterior margin, short stout and triarticulate, basal joint long slender and curved, 2nd obtrigonal, 3rd large and pyriform (4).

Head *very short and nutant*: eyes *small lateral and prominent*. Thorax *gibbose, subglobose, constricted near the base and projecting over the head*: scutellum *small and orbicular*. Elytra *long and oval*: wings *very long*. Legs *moderate*: thighs *clavate*: tibiae *rather long and slender*: tarsi *longish, 5-jointed, basal joint the longest, 4th the smallest, 5th clavate*: claws *small*. (5, a hind leg.)

SEXPUNCTATUS Fab.—Curt. Guide, Gen. 284. 5.

Female, castaneous brown: antennæ and legs clothed with ochreous scales, base of head and scutellum with whitish scales: thorax with a tubercle on each side, but not channelled, rugose with punctures, having also short ochreous hairs: elytra with 10 lines of oblong punctures and rows of smaller punctures between them producing short hairs; a large sublunate white spot on each side towards the shoulders and another near the apex, divided and forming a small and large spot.

In the Author's Cabinet.

PTINUS is frequently a most destructive insect in houses, living in wood and furniture, and occasionally causing serious mischief in museums.

Two allied genera, *Mezium* and *Gibbium*, have been already illustrated in this Work, and they are so well characterized by their connate elytra and indistinct scutels that I need only refer to Plates 232 and 342, where they are represented. The following are our species of the genus *Ptinus*.

1. *imperialis* Linn.—Panz. 5. 7.—Sam. pl. 1. f. 6.

June, hedges, Darent and Birch Woods, and on paling in the spring in Norfolk and Suffolk, J. C. On White-thorn blossoms, end of May, Mr. Dale, and Coomb Wood, J. C.; near Bristol, Mr. Waring; near Burgh Castle, Mr. Paget.

2. *germanus* Linn.—Oliv. v. 2. no. 17. pl. 1. f. 6.

June, on old posts, Carrow Abbey near Norwich, and Bungay, Suffolk, J. C.; Swansea, Mr. Dillwyn.

3. *rufipes* Fab.—Oliv. pl. 2. f. 8.—*elegans* Fab. ♀.

May, hedges.

4. *sex-punctatus* Fab.—Curt. Brit. Ent. pl. 646. ♀.—Museum Leach.

This handsome species is at once distinguished from the following by the form of the thorax, which is not channelled: it is of a dark chocolate colour, the crown of the head is distinctly whitish, and the white spots on the elytra are dissimilar.

The only specimen I have seen I took many years since in Norfolk, but Mr. Dale thinks he captured one at Furleigh near Beaminster the end of June; May, Edinburgh, Dr. Leach.

5. *Fur* Linn.—Don. v. 12. pl. 422.—*testaceus* Mars. ♂.—*clavipes* Panz. 99. 4.—*Latro* Fab.

September and the winter months, common in houses everywhere.

6. *crenatus* Fab.—*ovatus* Mars.—*Cerevisiæ* Mars. ♀.—*testaceus* Oliv.? pl. 2. f. 9.

April and August, houses, Norfolk, Hurne and Glanville's Wootton.

7. *Lichenum* Mars. 89. 26.—*similis* Mars. 90. 30. ♀.—*bidens* Oliv. pl. 2. f. 10.

May, Thetford, and in old houses at Drayton, in Norfolk. I have frequently taken both sexes in May on old paling at Wandsworth, but I could only find the males in the middle of June.

For specimens of the rare Plant figured, *Veronica hybrida*, Welch Speedwell, I am indebted to W. C. Hewitson, Esq., who gathered them the end of last August on St. Vincent's Rocks near Bristol.



MEZIUM SULCATUM.

ORDER Coleoptera. FAM. Ptinidæ *Leach*. Ptiniore *Lat*.

Type of the Genus *Ptinus sulcatus* *Fab*.

MEZIUM *Leach* MSS, *Sam*.—*Ptinus* *Fab*., *Marsh*., *Gmel*.

Antennæ inserted in the middle of the face, nearly as long as the body, approximating, straight, robust nearly filiform and densely clothed with depressed scales; 11-jointed, basal joint the longest slightly clavate, the 9 following somewhat cup-shaped, slightly tapering, the 11th joint a little longer, acuminate obliquely (6).

Labrum transverse, slightly dilated at the base, anterior angles rounded, deeply emarginate and densely ciliated (1).

Mandibles short, subtrigonal, acute at the apex, producing a blunt tooth on the internal side (2).

Maxillæ small producing 2 lobes densely clothed with hair, the internal one larger than the external, which projects considerably beyond it. *Palpi* short, 4-jointed, basal joint curved, 2nd and 3rd subtrapezoid, 4th long subovate, and terminated by a vesicle (3).

Mentum pilose trigonal, anterior angle truncated and produced over the *Labium* which is membranous and subovate, the margin thickened. *Palpi* inserted near the middle of the labium, short and robust, triarticulate, basal joint very slender, 2nd subglobose, 3rd conical (4).

Head *very short, nearly concealed*. Eyes *extremely minute touching the Thorax which is cylindric, very pubescent and not broadest at the base*. Scutellum *none*. Elytra *connate, globose smooth and semi-transparent*. Wings *none*. Legs *rather long, densely covered with scales; thighs clavate; tibiæ simple; tarsi composed of 5 short joints*. Claws *minute (5, a fore leg)*.

SULCATUM *Fab. Ent. Syst. 1. pars 1. p. 241. n. 11. Marsh. Ent. Brit. 91. 32.*

Clothed with shining ochreous scales. Thorax with a deep channel in the middle and a shallower one on each side forming 2 elevated ridges down the back, producing longer scales; the posterior margin thickened like a cord. Elytra globular, castaneous and polished, having a few ochreous bristles only at the base.

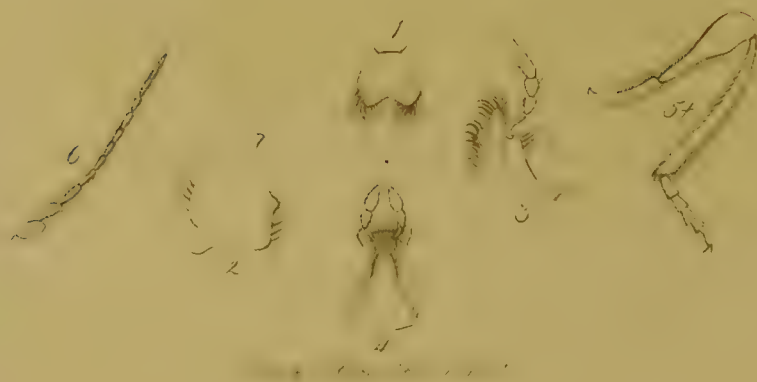
In the Author's and other Cabinets.

THE thorax of our insect gives it the appearance of a true Ptinus, whilst the shining and globose elytra very much resemble those of Gibbium; it is therefore evidently intermediate between those genera. I am happy to be the first who has ever characterized the genus Mezum, or figured the species: it seems to be unknown upon the Continent, for it neither appears in the catalogues of the Baron Dejean nor of M. Sturm. In London it is not uncommon, being found in houses generally about the month of April, frequently coming out of the old paper on the walls of the rooms, or falling from the ceiling: whether it destroys the laths, feeds upon the paper, or the paste by which it is attached, has not I believe been ascertained.

Fabricius states that it inhabited dried plants from the Canary Isles. The males are smaller than the females, and not elongated as in the genus Ptinus.

For fine specimens of this insect I have to acknowledge my obligations to A. H. Davis, Esq., to whose liberal communications I am indebted for much valuable information.

The plant represented in the Plate is *Ornithopus perpusillus* (Common Bird's-Foot).



GIBBIUM SCOTIAS.

ORDER Coleoptera.

FAM. Ptinidæ Leach.

Type of the Genus, Ptinus Scotias Fab.

GIBBIUM Scop., Lat., Curt.—Scotias Czenpinski.—Ptinus Fab., Oliv., Gmel.—Bruchus Geoff.

Antennæ inserted before the eyes, approximating, porrected, nearly as long as the body setaceous, densely clothed with long pubescence, 11-jointed, basal joint robust subovate, 2nd and 3rd slender of equal length, as long as the 1st, subclavate, the remainder shorter, excepting the terminal joint which is the longest and somewhat conical (6).

Labrum suborbicular, deeply emarginate before, and thickly clothed with long curved hairs (1).

Mandibles subtrigonal, arched and a little pilose externally, producing an obtuse tooth on the inside, the margin below being pilose and pubescent (2).

Maxillæ bilobed, internal lobe elongate, external short, both densely clothed with pubescence and furnished with curved spines at the margin. *Palpi* 4-jointed, basal joint slender, long and curved at the base, 2nd and 3rd obovate, 4th rather longer than the 1st, attenuated to the apex, which has a vesicle (3).

Mentum small, subtrigonal, very pilose, broadest at the base and attenuated to the apex which is rounded. *Labium* projecting considerably beyond the mentum, very pubescent subcordate, the sides lobed. *Palpi* attached near the anterior margin, tri-articulate, pubescent, basal joint short and slender, 2nd obovate, 3rd larger elongate-ovate (4).

Head not very short, nutant. Eyes small, not prominent, placed on each side the crown of the head near the Thorax which is smooth, circular, broadest at the base, longest above, anterior margin nearly straight, posterior convex. Scutellum none. Elytra connate, ovate, nearly enclosing the body beneath. Wings none. Abdomen very small. Legs rather long, especially the hinder pair: coxæ long, particularly the posterior: thighs clavate: tibiæ incrassated at the apex, hinder pair the longest: tarsi composed of 5 short joints, nearly obtrigonal, excepting the apical one which is subovate: claws minute (5†, a hind leg).

SCOTIAS Oliv. v. 2. no. 17. pl. 1. f. 2. Panz. 5. 8. Curtis's Guide, Gen. 286.—apterus Gmel.

Chestnut colour, smooth, shining. Head black, sides with a few elevated lines: clypeus and mouth clothed with ochreous pubescence: antennæ and legs densely clothed with ochraceous scaly pubescence.

Obs. The continental specimens are larger and of a ferruginous ochre colour.

In the Cabinets of Mr. Wailes, the Author, &c..

GIBBIUM Scotias may be mistaken at first sight for *Mezium sulcatum*; but the skilful entomologist will soon discover that it has a smooth and shining thorax, and instead of being gibbous, the outline is continuous with that of the elytra, which are obliquely truncated at the base. The small eyes are placed further from the antennæ in our genus than in *Mezium*, and the singular shining and semitransparent horny elytra are slightly elongated.

The antennæ of both genera are so thickly clothed with scales, that they appear to be robust, but they taper considerably in *Gibbium*. The principal differences in the trophi are to be found in the labrum and labium, in the length of the palpi, and in the maxillæ, which are furnished with longer and more curved spiny bristles than in *Mezium*.

“Nothing,” says Geoffroy, “is more singular, for the form, than this little insect: it resembles a brown and shining globe, carried upon feet; its head forming only a little point on one side. The head is very small, and there arise from it antennæ almost as long as the body, and placed before the eyes, which are very minute. The thorax is broad and very short. The elytra are convex, smooth, polished, and of a chestnut colour: they meet and are united, and moreover they envelope a great portion of the underside of the body, so that the insect is quite clothed with a cuirass. Under these united and immoveable elytra there are no wings. Its antennæ and feet are a little hairy, and of a light colour. The rest of the body is brown and shining.”

Until within a few years, this curious insect was considered to inhabit houses and museums in the south of Europe only; but from Mr. Samouelle we learn that “it has been three times taken in Bristol,” in April: and it has lately been detected at Newcastle by George Wailes, Esq., to whom I am indebted for specimens and the following memorandum:—“I take these insects in a very dry closet, and think, from the exuviae of the larvæ I have found, that they subsist either upon the paper with which the closet is hung, or the paste that attaches it to the wall.” In France it is also found in old hay.

The plant is *Clematis Vitalba* (Traveller’s Joy).



SERROCERUS PECTINATUS.

ORDER Coleoptera. FAM. Ptinidæ.

Type of the Genus, Ptilinus pectinatus Fab.

SERROCERUS Kugel., Gyl., Curt.—Xyletinus Lat., Dej.—Ptilinus Fab., Panz., Gyl.—Dermestes Mars.

Antennæ nearly alike in both sexes, inserted before the eyes at the base of the mandibles, a little longer than the thorax, beneath which they are concealed when at rest, compressed, pubescent, 11-jointed, basal joint clavate, 2nd the smallest, subglobose, the remainder obtrigonal, being produced at the apex on the inside, excepting the terminal joint which is the longest and elliptical (6).

Labrum suborbicular, truncated anteriorly and ciliated (1).

Mandibles subtrigonal, dilated and rounded externally at the base, furnished with 3 teeth on the inside, at the apex (2).

Maxillæ terminated by 2 lobes, the internal rather small and fringed with short hairs, the external much larger, trapezate and densely ciliated. *Palpi* a little longer than the labial, 4-jointed, basal joint minute, 2nd long subclavate, 3rd short, 4th rather longer than the 2nd, robust, somewhat elongate-ovate (3).

Mentum subtrigonal, the angles and apex rounded. *Labium* quadrate at the base, producing two narrow divaricating and pubescent lobes. *Palpi* attached near the sides of the lip, triarticulate, basal joint minute, 2nd and 3rd nearly of equal length, the former subclavate, the latter hatchet-shaped (4).

Head broad and deflexed. Eyes small and lateral. Thorax short, broad and convex, the sides slightly reflexed. Scutellum small. Elytra broader than the thorax, ovate. Wings ample. Legs short. Thighs slightly thick. Tibiæ rather long, with a minute spur at the apex. Tarsi composed of 5 somewhat obtrigonal joints, basal rather the longest, 3rd and 4th the shortest, 5th obovate. Claws minute (5, a fore leg; *the same tarsus viewed above).

PECTINATUS Fab. Ent. Syst. 1. 244. 4.—Curt. Guide, Gen. 288.

Piceous-black, slightly glossy, partially clothed with exceedingly short ochreous pubescence: antennæ with the two basal joints rufous: head and thorax very minutely reticulated, slightly keeled before the scutellum: elytra sometimes dull castaneous, with 12 deep and punctured furrows on each, the sutural one abbreviated, the interstices transversely striated: legs pale rufous.

In the Author's and other Cabinets.

THE genus *Serrocerus* of Kugellan was originally formed I believe to contain *Dorcatoma*, as well as the species at present under consideration; and as it was established nearly 40 years since in Schneider's Magazine, I have restored his name, which alludes to the serrated antennæ.

Since my "Guide" was published, I find that it is the first, and not the second species, that I possess.

1. *S. pectinatus* Fab.—Curt. Brit. Ent. pl. 375. var.—Panz. 6. 9.—*striatus* Kug. ?—*rufipes* Mars. 62. 5. var.

I have seen specimens smaller, and others larger, than the outline figured in the plate. The coloured one is a variety, for the elytra are generally of an uniform pitchy black. Sometimes 3 or more of the basal joints of the antennæ are rufous, and the thighs are occasionally dusky.

It inhabits old wood, especially oak. I took one on some paling at North Mimms, Hertfordshire, in which county I believe it is not uncommon; and Mr. Marshall found it in some abundance in the decayed parts of large old posts near Bridge-north in Shropshire, the beginning of last June.

I doubt whether the true *P. serratus* of Fabricius has been discovered in England: at first I thought it might be the male of the above insect; but Mr. Marshall having taken both sexes, he decided that point. I have never seen a British specimen of the Fabrician *P. serratus*, which is probably not the 35. 9. of Panzer, for Fabricius says his insect is smaller than *P. Dorcatoma* (*Dorcatoma Dresdensis*), and I shall give his characters that the student may judge for himself.

2. *S. serratus* Fab. Supp. 73. 5.—*ater* or *serratus* Panz. 35. 9?

"Black, elytra striated. Smaller than the preceding (*P. Dorcatoma*). Head inflexed. Antennæ very much serrated, very flabellate, black. Thorax smooth, with the margin deflexed." Fab.

The rufous tibiæ and tarsi of Marsham's *D. rufipes*, the length of which is $1\frac{1}{2}$ line, and even the name intimates that it is not the same species as the *P. ater* or *serratus*. His description was no doubt taken from a variety of *P. pectinatus*, with the thighs and antennæ fuscous, the base of the latter, the legs and feet rufous.

In the early editions of Panzer his fig. 35. 9. is named *P. ater*, but he has since altered it to *serratus*: it is better therefore to adopt the Fabrician names, considering the doubt which is attached to Panzer's figure.

The Plant is *Viburnum Lantana* (Way-faring Tree).



ANOBIUM PERTINAX.

The obstinate Death-watch.

ORDER Coleoptera.

FAM. Ptinidæ.

*Type of the Genus, Ptinus tessellatus Linn.*ANOBIUM *Fab., Oliv., Lat., Curt.*—Ptinus *Linn., Mars.*—Byrrhus *Geof.*—Dermestes *Thunb.*

Antennæ inserted close to and before the eyes, pilose, clavate, as long as the thorax, 11-jointed, basal joint subglobose, 2nd short ovate, 3rd a little longer, subcylindric, 5 following obovate-truncate, not longer than the third but stouter, 9th 10th and 11th large, forming an elongated club, the two former truncated, the last elongate-ovate-conical (6).

Labrum transverse-oval, ciliated with long hairs (1).

Mandibles subquadrate, truncated obliquely, forming 2 strong teeth at the apex, with a small tuft of hairs near the base on the inside, externally pilose (2).

Maxillæ formed of 2 large rounded and hairy lobes, the external one extending very far beyond the other. *Palpi* not longer than the labial, pilose and 4-jointed, basal joint small, 2nd longer, 3rd somewhat cup-shaped, scarcely longer than the 1st, 4th the longest lanceolate obtuse (3).

Mentum transverse subtrigonal-truncate, the sides sinuated and pilose. *Lip* large, obcordiform and pilose at the margin. *Palpi* inserted near the sides, rather long pilose and triarticulate, basal joint rather the smallest clavate, 2nd a little larger, 3rd the largest, sublanceolate being truncated obliquely (4).

Head concealed by the thorax: eyes small lateral and globose, (7 front view of head). Thorax large globose or arcuated, sides rounded and reflexed, anterior and posterior margins convex. Scutellum small and rounded. Elytra very long cylindric and elliptical. Wings ample. Legs compressed. Thighs grooved beneath to receive the Tibiæ which are slightly dilated at the apex and furnished with minute spurs. Tarsi nearly of equal length 5-jointed, very pilose beneath, basal joint the longest obtrigonal, the remainder short, cup- or heart-shaped, terminal joint obovate. Claws small but acute (5). Larvæ fleshy cylindric slightly hairy, head small, but distinct, mandibles similar to those of the perfect insect, 6 pectoral feet; apex of abdomen incurved.

PERTINAX *Linn. Faun. Suec.* 142. 414. *Curt. Guide, Gen.* 290. 3.

Castaneous brown, densely clothed with short hair. Palpi ochreous. Antennæ castaneous. Head and thorax granulated, face clothed with yellowish pubescence, thorax with a fovea on the crown and one at each of the anterior angles, posterior angles acute, hinder portion grooved transversely and clothed with shining ochreous pubescence; an elevated and channeled ridge next the scutellum, which as well as the shoulders are clothed with ochreous pubescence. Elytra appearing slightly granulated, with 11 deeply punctured striæ on each, the sutural one abbreviated: underside and legs clothed with yellowish pubescence, the latter more or less castaneous.

In the Cabinets of Mr. Marshall, Mr. Dale, and the Author.

THE present arrangement of the British species will be found more natural than that of the Guide, but the original numbers are retained to prevent confusion in reference.

3. *A. pertinax* L.—*Curt. B. E. pl.* 387.—*striatum* F.—Pz. 66. 4.—*Fagi Hüb. var.*

Stewart says, after Linnæus, that when taken, this insect contracts itself, and remains motionless as if it were dead, nor can any torture force it to move. It is destroyed by the *Thanasimus formicarius*, pl. 398. The common *A. striatum* is so often named '*pertinax*,' in consequence of Fabricius having reversed the names, that I am happy in giving a figure of the true one, which is very rare in England; and for this opportunity I am indebted to the liberality of T. Marshall, Esq., who took specimens the beginning of April, beneath the bark of a Pollard oak near Bridgenorth; it has also been captured at Windsor.

2. *A. rufipes* F.—*brunneum* Ol. 2. n. 16. pl. 2. f. 6?—*cylindricus* Mar. var. June, decayed oak trees, and in houses.

4. *A. striatum* Oliv. pl. 2. f. 7.—*pertinax* F.—Pz. 66. 5.

May, June, July, in old houses in abundance, sometimes reducing chairs, tables, picture-frames, books, &c. almost to powder.

6. *A. tessellatum* F.—Pz. 66. 3.—*pulsator* Schel.

June, rotten wood, especially oak, lime, and willow. December, in abundance upon an old post at Ditchingham in Norfolk, where I heard and saw the beating which was performed with the head; and it is said to be the male only that uses this call (see Int. to Entom. vol. ii. p. 387.) Mr. Dale informs me that this species is very destructive to the roof of King's College Chapel, Cambridge, that the specimens are very large, and I think I have heard that they even eat through the sheet-lead.

1. *A. castaneum* F.—Ol. pl. 1. f. 2.—*excavatum* Kugel.

June and July, park and other paling, and hedges.

8. *A. molle* Linn.—Ol. 2. n. 16. pl. 2. f. 8.

This is said to be destructive to dried plants. I found it on a boat-house in Norfolk, under some willows.

7. *A. Abietis* F.—Pz. 66. 7.—*lævis* Mar. 84. 9.

Inhabits the cones of pine-trees.

5. *A. paniceum* Linn.—*Fab.*—Pz. 66. 6.—*rubellus* Mar. ♀.—*tenuicornis* Mar. ♂.

Most abundant I believe in June, and destroys the floors of rooms. Indeed this is a most extraordinary little insect; I have seen tinfoil perforated by the larvæ. Mr. Waller Clifton informs me that they will live upon black wafers, which they reduce to powder. Dr. Boott gave me a bottle of Cayenne pepper, on which they fed and multiplied until it became a mass of larvæ, pupæ, and beetles; and Mr. Mathews sent me some interesting observations relating to their destruction of a great portion of his herbarium. But the most serious injury they commit is by breeding in ship-biscuit, by which means it is frequently rendered unfit for use.

290^a. *OCHINA* Zieg.—*Crioceris* Marsh.

9. *A. ptinoides* Mar. 228. 25.—*Hederæ* Mull.?—Distinguished from *Anobium* by the antennæ, which are similar to those of *Serrocerus* (pl. 375.)

June, at Coombe, New Forest, Glanville's Wootton, on an alder, Mr. Dale; and once met with in abundance on an old ivy-tree in Suffolk, by Mr. Kirby.

The Plant is *Parietaria officinalis* (Pellitory-of-the-Wall).



DERMESTES LARDARIUS.

ORDER Coleoptera.

FAM. Dermestidæ.

Type of the Genus, Dermestes lardarius Linn.

DERMESTES Linn., Fab., Lat., Gyll., Curt.

Antennæ inserted before the eyes on each side of the clypeus, a little longer than the head, capitate, pilose, 11-jointed, basal joint rather stout, subpyriform, 5 following slender, subglobose, 7th and 8th somewhat saucer-shaped, the latter the broadest, the remainder forming a broad compressed club, most produced on the inside, 9th joint the largest, semiorbicular, 10th nearly as large and similar in form, 11th smaller and somewhat orbicular-ovate (6).

Labrum projecting from under the clypeus, with a broad short membrane at the base, transverse, emarginate in the centre, pubescent and hairy (1).

Mandibles short and thick, broad and emarginate at the apex, forming 2 short acute teeth, pubescent and membranous inside (2).

Maxillæ terminated by a longish, densely pubescent lobe, with a smaller one inside, furnished with a strong short hook. *Palpi* short filiform and 4-jointed, basal joint short, 2nd and 3rd somewhat obconic-truncate, with a few bristles outside, 4th longer elliptical and truncated (3).

Mentum oblong, rounded and pilose before. *Labium* rather large and cordate, the margin ciliated. *Palpi* triarticulate, attached to large scapes at the base of the lip, basal joint small oval, 2nd stouter, obovate-truncate, the apex bristly, 3rd joint the longest, incurved, ovate (4).

Head *nutant*, small and ovate; clypeus narrowed: eyes small globose and prominent. Thorax *semiovate*, convex, anterior margin concave, posterior convex or slightly bisinuated, sides with a fine margin: antepectus not advancing to the mouth: scutell rather moderate, trigonate. Elytra elliptical, convex, thrice as long as the thorax. Wings ample. Legs moderate, anterior the shortest: thighs thickish: tibiæ compressed, with short rigid bristles outside, apex truncated, with a short curved tooth at the interior angle of the anterior, the others with small spurs: tarsi slender, 5-jointed, very pubescent beneath, the 4 basal joints short in all the feet, 5th longer and clavate: claws strong, curved and forming a tooth at the base (5, a fore leg).

LARDARIUS Linn.—Curt. Guide, Gen. 291. 3.

Brownish-black, clothed with short depressed pubescence, thickly and minutely punctured: antennæ castaneous, club ferruginous, hairs on the face ochreous: thorax with ochreous spots formed of hairs, basal half of elytra castaneous, densely clothed with ochreous pubescence, leaving the base and a transverse line of spots naked and castaneous: legs piceous.

In the Author's and other Cabinets.

IN more southern latitudes the larvæ of these insects commit great ravages amongst the dried skins of animals, anatomical

preparations, and even the insects preserved in cabinets, but in this country they are seldom found in houses. Moses Harris relates a remarkable fact of some of these insects having been found by him alive in the body of a living specimen of *Smerinthus ocellatus*.

Dermestes is separated from *Megatoma* (pl. 244.) by the form of the antennæ and trophi, as well as by the antepectus, which is not produced over the mouth, and the differences are still greater in *Attagenus* (pl. 247.). The *Dermestes* when disturbed contract their antennæ and legs and lie as if dead, frequently on their backs. The following species inhabit Britain.

1. *tessellatus* *Fab.*—*murinus* *Oliv.* 2. no. 9. tab. 1. f. 3^b.

Black mottled with cinereous, head and thorax variegated with ferruginous hairs; beneath white with black dots; antennæ subferruginous.

Middle of July, Dover, and on dried sea-weeds on the sea shore, also in August at Shoreham.

2. *murinus* *Linn.*—*Don.* v. 15. pl. 515.—*Sam.* pl. 1. f. 4.—*Catta* *Panz.* 40. 11.—*nebulosus* *DeG.*

Black, mottled above with cinereous, scutellum fulvescent, underside white.

June, in dead moles hung upon bushes by the mole-catchers; also in dead rats on rabbit warrens, near Thetford, in abundance: I have also beaten them out of bushes in woods and plantations.

3. *lardarius* *Linn.*—*Curt. Brit. Ent.* pl. 682.

Lives upon dead animal substances in kitchens, larders, museums, &c., and is found in April, May, and June.

4. *vulpinus* *Fab.*—*murinus* *Panz.* 40. 10.

Black, cinereous with pubescence; white beneath; sides of thorax densely cinereous with short hairs.

Supposed to be imported with skins and provisions, on which the larvæ feed. I once found a considerable number dead in a dry bone.

5. *lanarius* *Ill.*—*Gyll.*—*ater* *Oliv.* 2. no. 9. pl. 2. f. 12.?

“Shorter and convex, smooth and black; beneath silky white; antennæ small, rufo-piceous.” *Gyll.* 2. 149. 5.

Gyllenhal states decayed wood to be the habitat of this species.

6. *plantaris* *Curt.*—*nigripes* *Panz.* 97. 5.

Piceous, thickly and minutely punctured, middle of antennæ and tarsi ochreous: length $1\frac{2}{3}$ line.

I found a specimen in Mr. C. Griesbach's cabinet, with others of *Megatoma serra*, which it very much resembles. As I have great doubts of its being Fabricius's *D. nigripes* I have dropped his name, which was employed in the Guide.

The Plant is *Inula* (*Pulicaria* Cass.) *dysenterica*, Common Fleabane.



MEGATOMA SERRA.

ORDER Coleoptera. FAM. Dermestidæ *Leach, Lat.*

Type of the Genus Dermestes undatus Linn.

MEGATOMA *Herb., Lat., Leach.*—*Attagenus Lat.*—*Dermestes Linn., Fab., Oliv., Gyll.*

Antennæ inserted before the eyes at the base of the mandibles, clavate and pilose; 11-jointed, 1st and 2nd joints robust, oval, 2nd smaller, 5 following slender, subovate, 8th and 9th cup-shaped, the latter larger, the remainder forming a perfoliated, pubescent club larger in the male than female, the penultimate joint being the shortest, and the terminal one elongate-ovate in the male; subconic in the female (6).

Labrum transverse-oval, coriaceous, the margin transparent and clothed with rather long bristles (1).

Mandibles short, subtrigonal, obtuse, emarginate at the apex, externally pilose (2).

Maxillæ slender, simple and pubescent, especially at the apex. *Palpi* robust producing a few bristles, 4-jointed, basal joint minute, 2nd and 3rd short but broader, 4th large, ovate-truncate (3).

Mentum transverse, narrowed at the base and attenuated to the anterior margin, which is indented and produces a few strong bristles. *Labium* large subquadrate, ciliated at the apex; the *Palpi* inserted near the base, remote, short, robust, slightly pilose, triarticulate, basal joint minute, 2nd larger somewhat ob-ovate, 3rd as large as the other two, subconic-truncate (4).

Males smaller than the females. Head small nutant, the *nasus* rather produced. Eyes globose remote, with an *Ocellus* between them. Thorax transverse broadest at the base which is slightly produced in the middle, the angles acute, anterior margin rounded. Antepectus or Sternum produced over the mouth like a neckcloth. Scutellum minute. Elytra oval broader than the thorax. Wings ample. Legs rather short and slender. *Tibiæ* nearly linear and simple. *Tarsi* 5-jointed, 1st joint oblong, 3 following very short and oblique, 5th long. Claws simple (5, a fore leg).

SERRA *Fab. Ent. Syst.* 1. pars 1. p. 234. n. 40.—*Gyll.* 1. p. 153. 10.

Black inclining to castaneous, especially the sides of the thorax, shining, rather thickly punctured and clothed with short pubescence. *Antennæ* and legs ferruginous ochre, the former with the club serrated (especially in the males), the 9th joint obtrigonal, longer than the 10th which is transverse and produced on the internal side, the 11th subconic.

In the Author's and other Cabinets.

MEGATOMA may be distinguished from Attagenus, to which it is closely related, by the peculiar form of the underside of the thorax (called the antepectus or prosternum), which generally covers the mouth: the antennæ are lodged in two cavities beneath the sides of the thorax; and there are many other characters which will be pointed out when the genus Attagenus is illustrated.

Megatoma contains only two species, and their antennæ vary so considerably in the males, that they may form two divisions.

I. With the club simply perfoliate.

1. *M. undata* Linn.—*undulatus* Linn. *Faun. Suec.* p. 141. n. 410.—*Panz.* 75. 13.

Some specimens are larger and others smaller than *M. Serra*. Black, shining, minutely punctured: posterior angles of the thorax and a spot before the scutellum clothed with white scales; an interrupted and undulated fascia upon the elytra before, and another beyond the middle, formed of white scales also. Tarsi piceous.

I have found this insect in June upon paling in the Regent's Park. Mr. Robinson informs me that they eat holes in, and apparently live upon, the chrysalides of Noctuæ, that change beneath the bark of trees. Mr. Samouelle observes that they inhabit Birch-trees (beneath the bark) in the months of March and April: the larva spins a silken web in which it changes to a pupa. It is also found on elm-trees, on flowers, and in houses.

2. *M. Serra* Fab., *Curtis Brit. Ent. pl.* 244. male.

In the Entomological Transactions are the following observations by the late Rev. J. Burrell:—"The larva of Serra is a curious ferrugineous one, living under the bark of Elms and Oaks, where it may be found almost all the year, particularly in the early spring months." In the winter it feeds upon Onisci or Wood-lice.

The perfect insect is found in June under the bark of Oaks, Elms, and Sallows; also in Boleti. I have taken it off the trunks of trees in Kensington Gardens, and upon old palings near Battersea Bridge. The female may easily be mistaken for the same sex of *A. Pellio*, from which the two white spots had been rubbed off.

For the rare plant figured, *Ophrys aranifera* (Spider Ophrys), I am indebted to Sir John Tylden of Milsted, Kent.



ATTAGENUS TRIFASCIATUS.

ORDER Coleoptera. FAM. Dermestidæ *Lat., Leach.**Type of the Genus Dermestes Pello Linn.*ATTAGENUS *Lat., Leach, Sam.*—Megatoma *Herb.*—Dermestes *Linn., Fab., Lat., Marsh.*

Antennæ inserted before the eyes, on each side the nasus, longer than the head in the males; pilose, 11-jointed, 1st and 2nd joints robust, the former oval, the latter globose, the 3 following slender, subquadrate, 6th, 7th and 8th, cup-shaped, the remainder forming a very long robust and velvety club, the 9th and 10th joints cup-shaped, the terminal one elongate-ovate in the male (6), subovate in the female (6a).

Labrum transverse, oval and pilose; pubescent at the anterior margin which is very thin (1).

Mandibles small, subquadrate, externally pilose, the apex of one crenated, forming 4 little teeth; of the other simple; internal margin membranous below the middle (2).

Maxillæ terminating in a very long and cleft lobe, thickly ciliated with long curved hairs. *Palpi* longer than the maxillæ, pilose, 4-jointed; basal joint small, 2nd large obovate truncate, 3rd much shorter, obovate, 4th the longest, elongate-ovate, attenuated to the apex (3).

Mentum large, subquadrate, anterior margin rounded. *Labium* transverse, emarginate pubescent. *Palpi* remote, triarticulate, basal joint small, 2nd obtrigonal, 3rd much larger elongate-ovate (4).

Males smaller than the females. Head small nutant, with an Ocellus on the crown. Eyes small globose and lateral. Nasus narrowed, subquadrate. Thorax with the posterior margin sinuated, the lobe in the centre and the angles acute. Antepectus not produced over the mouth. Scutellum minute. Elytra oval, scarcely broader than the thorax. Wings ample. Legs short. Thighs and Tibiæ compressed, pubescent, the latter producing spiny bristles on the external side; spurs very short. Tarsi 5-jointed, basal joint small and obscure, the 3 following subquadrate, in the anterior pair (5); basal joint as long as the 3rd and 4th united in the others (5†), terminal joint long. Claws long slender and bent.

TRIFASCIATUS *Oliv.*—*Fab. Ent. Syst. 1. pars 1. p. 228. n. 7.*

Pale black, shining, minutely punctured, and covered with decumbent hairs. *Antennæ* black. Thorax with the posterior margin covered with yellowish shining hair, forming a black square spot on the lobe. Elytra with 3 transverse sinuated ferruginous bands, covered with ochreous pubescence, the 2 posterior interrupted by the suture; a small spot on each side at the base and one at the apex ochreous also. Underside clothed with yellow pubescence. Tibiæ inclining to castaneous. Tarsi and Claws entirely of that colour; the basal joint of the former very small.

In the Cabinet of the British Museum.

THE Attageni were considered by Latreille to be so different from the Megatomæ, that in his *Genera Crustaceorum* they were placed in separate families, the former being included in a division of the Dermestes, the latter amongst the Byrrhii. As we must proceed cautiously with regard to affinities, I shall at present only remark, that *A. trifasciatus* bears a great resemblance to the Anthreni. In addition to the differences pointed out when the genus Megatoma was lately illustrated, it may be observed that the remarkably long terminal joint of the antennæ in the males of this genus is a peculiar character, and that even in the females it is longer than the ante-penultimate. The upper lip, which is rounder, also conceals the mandibles, which are very differently formed. The maxillæ are very much elongated, and the inequality in the 2nd and 3rd joints of their palpi, as well as the great length of the terminal one, are valuable marks of distinction; but the most interesting difference, although previously unnoticed, is the minuteness of the basal joint of the tarsi, which in some is nearly obsolete.

There are only two British species of Attageni; and in such small genera as the present, whenever it is in my power I shall describe the species, which will render references to other works not absolutely necessary.

1. *A. Pellio* Linn. *Faun. Suec.* n. 411.—Don. *Brit. Ins.* 7. pl. 231. f. 3.—*bipunctatus* DeG.

Piceous black, shining, minutely punctured and covered with decumbent pubescence. Thorax with a spot at each posterior angle, one upon the lobe, and two upon the back of the elytra, villose white. Antennæ (excepting the club) and the legs dull castaneous.

This is a common insect in old houses, attacking the dried skins of animals, old books, paper, and wood. It is the larva probably of this species which will destroy collections of insects, if neglected for many years.

2. *A. trifasciatus* Oliv.—Curtis *Brit. Ent. pl.* 247.

There are specimens of this pretty insect in the British Museum, but Mr. Samouelle is unable to give me any information relating to them, beyond their being placed there by Dr. Leach.

The plant represented is *Stachys palustris* (Marsh Woundwort), together with a small tuber, as I understand no correct figure of it has hitherto been given; and it is rendered interesting from Joseph Houlton, Esq. having proved that the root by cultivation becomes edible, for which discovery the Society of Arts presented him with their Silver Medal.



ASPIDIPHORUS ORBICULATUS.

ORDER Coleoptera.

FAM. Dermestidæ?

Type of the Genus, Nitidula orbiculata Gyl.

ASPIDIPHORUS Zieg., Meg., Sturm., Lat.—Arpidiphorus Gyl., Dej., Curt.—Nitidula Gyl.

Antennæ inserted before the eyes, as long as the head and thorax, clavate, 10-jointed, basal joint large, curved and subclavate, 2nd stout subovate, narrowed at the base, as long as the 3rd which is slender, 4th shorter, 3 following small and cup-shaped, the remainder forming a stout pubescent elongated club, conical at the apex (6).

Labrum subquadrate, the angles rounded, the anterior margin slightly concave and sparingly ciliated (1).

Mandibles trigonate, rounded externally, the internal margin sinuated, slightly pubescent towards the apex (2).

Maxillæ composed of two rounded pubescent lobes, the internal one the shortest. *Palpi* short 4-jointed, basal joint minute, 2nd the largest subglobose, 3rd subquadrate, 4th as long as the 2nd but slender (3).

Mentum hemispherical. *Palpi* triarticulate, basal joint very minute, 2nd stout subovate, 3rd small ovate, terminated by a vesicle and a few hairs; they are inserted at the base of the *Lip* which is transverse and fringed with a few hairs (4).

Head *rather large and transverse*: eyes *lateral small and prominent*.

Thorax *transverse, broadest at the base, the posterior margin lobed at the centre*. Scutellum *distinct and semiorbicular*. Elytra *very convex, suborbicular, quadrate, nearly twice as broad as the thorax*.

Wings *ample*. Abdomen *extending beyond the elytra*. Legs *rather short*. Tibiæ *simple compressed and dilated except at the base*.

Tarsi *5-jointed, the joints very short excepting the 5th which is as long as the others united and clavate*. Claws *acute* (5, *a fore leg*; † *hinder leg*).

ORBICULATUS Gyll.—Curt. *Guide*, Gen. 296. 1. Viennensis Meg.

Subovate, piceous brown, head and thorax blackish, thickly and minutely punctured: elytra slightly pubescent with nine punctured striæ on each. Antennæ, mouth and legs pale ferruginous, the club of the former black.

In the Author's and other Cabinets.

THIS curious little insect has never hitherto been figured. I have included it with the Dermestidæ because the trophi and antennæ seem to agree best with that family. There can be little doubt that it is nearly allied to Trinodes, although it has a good deal the habit of a Hister, yet I should say it is not so nearly related to Byrrhus as to justify its being placed in the same family; until however Dorcatoma, Trinodes and Limnichus are well investigated, it will be difficult to assign to Aspidiphorus its natural situation.

Sturm placed it between Trinodes and Byrrhus, and in the Guide I adopted the affinities of Dejean and arranged it between Trinodes and Nosodendron (pl. 246).

Aspidiphorus orbiculatus was first discovered in England, I believe, by Mr. Spence near Hull in Yorkshire: it has since been captured the beginning of July in a larch plantation at Marton near Stockton on Tees by the Rev. G. T. Rudd; and near Sherburn in the same county, on a felled tree in a fir plantation in company with *Scaphidium 4-maculatum* (pl. 379), by A. Mathews, Esq., who informed me that they appeared to be covered with mud.

For my specimens I am indebted to F. Walker, Esq., who took them near Southgate. Mr. E. Doubleday also found a pair in moss the middle of November on the borders of Epping Forest.

The Plant is *Cynoglossum officinale* (Common Hound's-tongue).



NOSODENDRON FASCICULARE.

ORDER Coleoptera. FAM. Byrrhidæ Lat., Leach.

Type of the Genus Byrrhus fascicularis Oliv.

NOSODENDRON Lat., Leach.—Byrrhus Oliv., Panz.—Sphæridium Fab., Panz.

Antennæ inserted before the eyes under the margin of the head, longer than the head, clavate, 11-jointed, 1st and 2nd joints short robust, subovate, the latter being the smallest, the 3rd long, slender subclavate, 4 following short nearly of equal size, somewhat obovate truncate, 8th broader, cup-shaped, the remainder forming an abrupt perfoliated compressed and pubescent club, the 9th and 10th joints transverse boat-shaped, the terminal one subtrigonate (6).

Labrum small transverse ovate, anterior margin ciliated (1).

Mandibles trigonate, very broad at the base, the apex forming a broad bent flat lobe, beneath which the internal margin is slightly produced and ciliated (2).

Maxillæ terminated by a long coriaceous lobe, membranous and pubescent at the apex, a shorter transparent lobe on the inside, densely ciliated, with a short claw at the apex. *Palpi* not so long as the lobe of the maxilla 4?-jointed, basal joint invisible, 2nd and 3rd short robust, 4th more slender elongate-oval (3).

Mentum large, covering the mouth and concealing the lip, conical, sides notched towards the top, anterior margin rounded, the sides pilose. *Lip* large, membranous, pubescent, cleft in the centre. *Palpi* inserted at the base, short robust, triarticulate, 1st and 2nd joints small, 3rd oval (4).

Head subtrigonate, sunk to the Eyes which are rather small; *nasus* rounded. Thorax convex, transverse, short, anterior margin broader than the head and concave, posterior rounded, nearly as broad as the Elytra which are convex and suborbicular. Scutellum triangular elongated. Wings much longer than the body. Legs short, compressed, semicontractile. Tibiæ subobtrigonate-elongate, slightly serrated externally, anterior pubescent on the inside, slightly emarginate towards the apex on the outer edge (5). Tarsi short, 5-jointed, 4 first joints subquadrate, 5th much longer subclavate. Claws simple and hooked.

FASCICULARE Oliv. Entom. v. 2. n. 13. pl. 1. f. 7. a. b.

Black, shining. Head and thorax rather minutely, but not very thickly punctured. Elytra deeply and closely punctured, each having 5 rows of ochre-coloured fasculi, 7 or 8 in each row, sometimes obliterated towards the base. Antennæ castaneous, the club fuscous-ochre. Legs dark-castaneous.

In the Cabinet of the British Museum.

NOSODENDRON is considered to belong to the family Byrrhidæ; the passage probably to the typical genus will be by *Byrrhus setiger* of Illiger and *B. arenarius* of Sturm. I have only had an opportunity of examining the former insect, and then only superficially; but the antennæ appear to be so much more like those of our genus than of *Byrrhus*, that it will, I fear, be necessary to separate them, unless they be *Nosodendra*.

The genus has never been recorded as British. *N. fasciculare* was first observed near Paris many years since on the 25th of March in the ulcerated parts of Elm-trees, and was described and figured by Olivier, and afterwards by Panzer. Dr. Leach subsequently captured it in the month of May in Devon; and Mr. Hope informs me that he found a species at Southend, Essex, in abundance under the bark of Elm-trees, which were placed in the sand to arrest the incursions of the tide.

In the British Museum also, is a beautiful specimen of the *Byrrhus setiger* of Illiger and Gyllenhal, figured by Sturm in the 35th plate of his Deutschlands Fauna. It was taken by Dr. Leach in Speechwick Park, near Ashburton, Devonshire, some time in the month of May.

For specimens of the plant *Valeriana Calcitrapa* (Portuguese Valerian) I am indebted to Mr. R. Chambers, F.L.S. who gathered them the middle of last June, on an old wall at Eltham, Kent: it has never, I believe, been figured in any British Flora.



OOMORPHUS CONCOLOR.

ORDER Coleoptera. FAM. Byrrhidæ Lat., Lea.

Type of the Genus, Byrrhus concolor Sturm.

OOMORPHUS Curtis.—Simplocaria Curt., Steph.—Phalacrus Steph.

Antennæ inserted before the eyes, remote, not longer than the thorax, subclavate, pilose, 11-jointed, basal joint the largest, subovate, narrowed at the base, 2nd ferruginous, subconic notched internally at the base, 4 following slender and oblong, the remainder forming an elongated club, the 7th joint obtrigonal, 8th scarcely larger than the 6th; 9th and 10th obtrigonal, 11th ovate (6).

Labrum subquadrate, the angles rounded, producing a few bristles and 2 small tubercles beneath in front (1).

Mandibles subtrigonal, bifid at the apex, but not notched or membranous on the inside (2).

Maxillæ bilobed, internal lobe broad and rigid, thin on the inside, external lobe extending beyond the other, with a thin margin on the inside and a few bristles at the apex. *Palpi* short, robust, pilose and 4-jointed, basal joint minute, 2nd broad, cup-shaped, 3rd transverse, 4th ovate with a vesicle at the apex (3).

Mentum, anterior portion subquadrate: *Lip* suborbicular and transparent. *Palpi* robust, triarticulate, attached to large contiguous scapes, basal joint minute, 2nd large somewhat obtrigonal, 3rd conical with a vesicle at the apex (4).

Head received into the thorax, short and obtuse: eyes rather reniform, coarsely granulated. Thorax convex, subtrigonal, truncated before, rounded behind, the angles rather acuminate. Scutellum extremely minute. Elytra convex and ovate, the sides a little narrowed beyond the middle. Wings imperfect. Legs alike short and robust. Tibiæ compressed, dilated and partially clothed with long hairs: tarsi broad very pubescent beneath, 5-jointed, 1st and 2nd joints obtrigonal, 3rd bilobed, 4th minute, 5th elongate oval: claws minute (5 a fore leg).

CONCOLOR Sturm's Deut. Faun. 2. 109. tab. 35 A.—Curtis's Guide, Gen. 298. 1.—maritimus Steph.

Black, slightly æneous, smooth and very glossy, sparingly but rather coarsely punctured, excepting the head which has a long fovea in front. *Antennæ* with the 2nd joint ochreous. Elytra with 8 rows of punctures on each, the sutural one not extending half way, and gradually approaching the suture, as well as the 2nd. Tibiæ slightly clothed with subochreous pubescence.

In the Author's and other Cabinets.

I LATELY observed that the *Byrrhus concolor* was so essentially different to the *Simplocariæ*, that it would be impossible to

include them in the same genus; and, as it is remarkable in its structure, and apparently will lead to a new combination of certain groups, I shall lay before my readers the views that naturalists have hitherto taken of the Byrrhidæ.

Linnæus first described '*pilula*' as a *Dermestes*, and afterwards placed it in the genus *Byrrhus* with the *Anthreni*; Fabricius and Sturm (with some additions) arranged it between *Anisotoma* (*Agathidium*, *Ill.*) followed by *Chelonarium* (a genus inhabiting St. Domingo and Java) and *Anthrenus*: Latreille, in his *Genera Crustaceorum*, formed a family '*Byrrhii*' containing *Megatoma*, *Throscus*, *Anthrenus*, *Byrrhus*, *Nosodendron*, *Chelonarium*, *Hister*, *Elmis*, and *Heterocerus*. In his *Familles Naturelles* the *Byrrhii* follow the *Dermestini*, in which are included the *Megatomæ*; *Throscus* is placed with the *Elaterides*; *Limnichus* and *Aspidiphorus* are added, and *Elmis* and *Heterocerus* follow in the next family, *Hister* being entirely removed.

From this sketch it is evident that the most learned entomologists have been undecided respecting some of the affinities of this group. The singular contraction of their legs led to their being associated with *Dermestes* and *Hister*, but whatever relation they may have to the former, I cannot think it possible that they can be allied to the latter genus. The 8th joint of the antennæ being smaller than the 7th in our genus, shows an approach to *Leiodes* and *Agathidium* (as indicated by Fabricius and Sturm), and I have reason to think there exists at least an analogy between the *Byrrhidæ* and *Eumolps*.

Although *Oomorphus concolor* has been twice figured and thrice described, a most admirable specific character (the orange colour of the eccentric 2nd joint of the antennæ) has never been detected. I took a single specimen many years since in Norfolk; it has been taken "in June at the base of the cliffs between Dover and St. Margaret's Bay", and I found a specimen near Southampton the end of last spring. Mr. F. Walker finds it at Southgate in moss during the winter.

The plant is *Cheiranthus* (*Matthiola*, Brown) *sinuatus* (Sea Stock), drawn from a specimen found on the sand-hills near St. Hilier in Jersey; it grows also at Barmouth and other parts of Wales.



Chrysomelidae



by J. Curtis Sc. 1889

SIMPLOCARIA SEMISTRIATA.

ORDER Coleoptera. FAM. Byrrhidæ Lat., Leach.

Type of the Genus, Byrrhus semistriatus Ill.

SIMPLOCARIA Marsh MSS., Curt., Steph.—Cistela Marsh.—Byrrhus Ill., Panz. &c.

Antennæ inserted before the eyes, near the base of the mandibles; clavate, pilose and pubescent towards the apex; 11-jointed, basal joint large obovate, 2nd small ovate, 3rd long slender, three following short subovate, 7th rather incrassated, the remainder forming a perfoliate club, the joints bowl-shaped, excepting the last which is the largest and ovate (6).

Labrum transverse-oval, the sides angulated, emarginate before and pilose (1).

Mandibles, one trifid, the other bifid at the apex, with a very deep notch on the inside, filled with a large membrane (2).

Maxillæ small, terminated by an oblique lobe, pubescent at the apex. *Palpi* rather long and pilose, 4-jointed, basal joint minute, 2nd rather longer than the 3rd which is trapezate, 4th long, elongate-conic, terminated by a vesicle (3).

Mentum transverse, triangular, truncate, coriaceous at the base.

Lip rather large and suborbicular, ciliated. *Palpi* attached to two large scapes, contiguous, pilose, triarticulate, basal joint small, 2nd subtrigonal, 3rd large pear-shaped with a vesicle at the apex (4).

Head almost concealed in the thorax. Eyes small and lateral. Thorax convex, transverse, broadest at the base. Scutellum minute. Elytra convex, ovate, truncated at the base. Wings ample. Legs uniform, compressed: Thighs broad; tibiæ subfusiform but flat: tarsi rather long, 5-jointed, basal joint the longest (except in the anterior pair, in which the 5th is the longest), 4th minute; claws curved (5, a fore leg).

SEMISTRIATA Ill.—Curtis's Guide, Gen. 298. 3.—*picipes* Marsh. 105. 9.—*picea* Marsh. 106. 11. var. β .

Shining piceous, with a slight eneous tinge, pubescent and minutely but not very thickly punctured. Mouth legs and antennæ ferruginous. Elytra of the same colour or ochreous towards the apex; 6 striæ on each, becoming very faint, or vanishing, before reaching the apex.

In the Author's and other Cabinets.

HAVING carefully examined the *Byrrhus concolor* of Sturm, I find that it is impossible to include it in the genus *Simplocaria*, for it is considerably allied to *Leiodes*; and if it be so

nearly related to *Phalacrus* as some Entomologists imagine*, I shall propose arranging the Byrrhidæ between *Diaperis* and *Leiodes*, leaving the *Anthreni* with the *Dermestidæ*, to which family I think they must belong, judging from the characters of the larvæ and the close affinity of the perfect insects to *Attagenus trifasciatus*.

Our genus now contains only two species that are recorded as inhabitants of Britain.

1. *S. picipes*, *Oliv. v. 2. No. 13. p. 9. n. 9. tab. 2. f. 9.—Gyll. 1. 200. 8.*

Almost half as long again as *S. semistriata*, but not broader. Oblong, black, somewhat eneous, shining, feet rufous, elytra with the striæ deep and continued throughout.

Having no specimen of this insect, I have taken the above characters from Gyllenhal. Mr. Dillwyn in his 'Memoranda, &c.' says, "*Simplocaria picipes*? On Crwmllyn Burrows, not uncommon."

2. *S. semistriata*, *Ill.—Curtis Brit. Ent. pl. 335.*

This insect is very abundant in England under stones in arid and sandy places. I have found it on Mousehold Heath near Norwich, in gravel-pits; on the shore of Southampton-water; and in profusion, the middle of May, at the sides of stones on the sands near the Ferry in the Isle of Portland. It also occurs in Kensington Gardens; and Mr. Dillwyn says, "Common in putrid fungi in woods, and is often rather plentiful about the beginning of summer on Crwmllyn Burrows." I was not aware that these insects were fungivorous, which would bring them near to *Leiodes* in economy; but I hope that the larvæ will not go long undetected, as a knowledge of them might enable the Entomologist to give a natural and permanent location to the Byrrhidæ.

The plant is *Chrysanthemum segetum* (Corn Marigold).

* Mr. Stephens has placed it as the type of the genus *Phalacrus* under the specific name of '*maritimus*'!



BYRRHUS DENNII.

ORDER Coleoptera. FAM. Byrrhidæ *Lat., Leach.*

Type of the Genus Byrrhus Pilula Linn.

BYRRHUS *Linn., Fab., Oliv., Panz., Sturm.*—*Cistela Geoff., Marsh.*—*Dermestes De Geer.*

Antennæ straight, not so long as the thorax, inserted before the eyes, near the base of the mandibles, compressed, perfoliate-clavate, 11-jointed, basal joint large, 2nd small globose, 3rd long slender, 4th shorter, 5th turbinate, 6th globose, 4 following transverse-ovate, last large ovate (fig. 6).

Labrum transverse-ovate, pilose, slightly produced in front (1).

Mandibles small, trigonate, one bifid, the other subtrifid at the apex, with a large tooth on the interior side, beneath which is a deep notch and membranous appendage (2).

Maxillæ coriaceous above, thickly ciliated, internal lobe narrow, nearly as long as the external one. *Palpi* a little longer than the maxillæ, 4-jointed, basal joint minute, 2nd and 3rd of nearly equal size, 4th larger (3).

Mentum transverse, horny, slightly emarginate and ciliated. *Lip* membranous dilated at the base, anterior part thick, fleshy, cordate, ciliated. *Palpi* arising from the upper surface of the lip near the centre of each lobe, small, 3-jointed, basal joint minute, 2nd clavate, 3rd subovate (4).

Head small, sunk in the thorax. Eyes small lateral. Thorax narrowed before, posterior angles acute. Scutellum small. Elytra very convex completely covering the abdomen. Wings 2 formed for flight. Legs received into cavities in the abdomen. Tibiæ compressed, spurred, slightly serrated on the external edge, having a groove to receive the Tarsi which are 5-jointed, basal and terminal joints the longest, intermediate very short (5, a fore leg).

DENNII *Kirby's MSS.*

Black clothed with subaureous pubescence. Thorax with 2 large round spots before and 2 angulated ones near the middle black. Elytra with a black sinuated fascia across the middle not extending to the exterior margin, each having 4 black longitudinal stripes; margin blackish. Antennæ and legs castaneous, inclining to black. Beneath dull black.

In the Cabinet of Mr. Kirby.

FROM the dissimilarity of form at first sight of *Byrrhus* and *Hister* we are induced to inquire Latreille's reasons for placing them in the same family, when we shall find that in the structure of the legs as well as in the mode of contracting them, in the situation of the labial palpi and in the number of their joints, there is considerable evidence of relationship: in confirmation we will refer to a comparison of the legs of *Byrrhus* and of *Dendrophilus* (Pl. 131), of the labium &c. (fig. 4) of our Plate, and the same part of *Hister* in the *Horæ Entomologicæ* (fig. 1 F); and in *Anthrenus*, a genus of the same family, we have an approach to the antennæ of *Hister*. Dr. Leach very judiciously formed the *Histeri* into a family, and placed it next the *Byrrhidæ*. Mr. MacLeay in his ingenious and learned work has considered the *Histeridæ* allied to the *Lucanidæ*, which will bring them nearer to the *Scaribæidæ* than we have been accustomed to see them; and the question now is, whether the *Byrrhidæ* are to accompany them.

The following is a list of our British species and their synonyms.

- 1 *B. Dennii* Kirby. *Nob.*
- 2 *pilula* Linn., Panz. 4. 3. *Sturm*, tab. 33.—*ater* Panz. 32. 2.
- 3 *fasciatus* Fab., Oliv. tab. 1. f. 2.—*ornatus* Panz. ? 24. 1. *ferruginea* Marsh.—*undulata* Marsh.
- 4 *oblongus* Sturm, tab 34, A, a.
- 5 *ater* Marsh. *Ent. Brit.*
- 6 *murinus* Fab., Panz. 25. 1.—*undulatus* Panz. 37. 14.
- 7 *dorsalis* Fab., Panz. 104, —, *fasciatus* Panz. 32. 1.—*morio* Panz. 37. 15.—*bicolor* Marsh.
- 8 *varius* Fab., Panz. 32. 3.—*sericea* Marsh.
- 9 *fuscus* Marsh. *Ent. Brit.*

The beautiful species figured was found in a chalk pit in Barham, Suffolk, in the spring of 1821 by Mr. H. Denny, whose monographs upon the British *Pselaphidæ* and *Scydmanidæ*, with coloured figures, entitle him to the honour which his patron has conferred upon him by calling this insect by his name.

The *Byrrhi* are found in sandy situations, gravel pits, at the base of walls, and the roots of trees, amongst short grass in pathways, &c. from March to July.

The plant is *Cynosurus cristatus* (Crested Dog's-tail Grass.)



THROSCUS OBTUSUS.

ORDER Coleoptera. FAM. Elateridæ *Lat.* Byrrhidæ *Lat.*,
Leach.

Type of the Genus Elater dermestoides Linn.

THROSCUS *Lat.*, *Leach.*—Trixagus *Gyll.*—Dermestes *Fab.*, *Payk.*,
Ill.—Elater *Linn.*, *Geoff.*, *Oliv.*

Antennæ inserted before the eyes, as long as the thorax, pilose, concealed when at rest in grooves beneath the thorax, 11-jointed, basal joint robust ovate, 2nd subquadrate, the 6 following smaller, subglobose, the remainder forming a perfoliate club, the 1st joint obovate truncate, 2nd transverse, 3rd trigonate (fig. 6).

Labrum triangular, convex, ciliated and pilose (1).

Mandibles alike, broad at the base, bent, acute, internal edge thin, external hairy (2).

Maxillæ small, bilobed, membranous and pubescent at their extremities, internal lobe minute, external large ovate. *Palpi* 4-jointed, pubescent, basal joint minute, 2nd large clavate, 3rd globose, 4th large, subovate compressed (3).

Mentum transverse, produced into a lobe in the centre. *Lip* membranous thickened down the centre, somewhat cordate, ciliated.

Palpi membranous, 3-jointed, inserted on each side the lobe of the mentum, 3-jointed, basal and 2nd joints minute, 3rd very large obovate, pubescent, compressed (4).

Head bent down so as nearly to conceal the mouth. Thorax produced beneath between the coccæ, semicircular, broadest at the base, acuminate at the posterior angles. Scutellum triangular. Wings longer than the elytra and twice as broad. Legs submembranous, received into grooves in the abdomen when at rest. Thighs broad flat. Tibiæ linear armed with several rigid bristles at their apex, having a groove on the external side to receive the Tarsi which are 5-jointed, basal joint the longest, elongate ovate in the 4 posterior (5 †), penultimate joint bilobed, terminal slender. Claws small (5, a fore leg).

OBTUSUS *Westwood's MSS.*

Dull castaneous, shining, covered with short, decumbent yellowish hairs. Head rounded, coarsely punctured. Eyes black. Thorax coarsely punctured, convex, sinuated at the base, the centre being produced and elevated close to the scutellum, posterior angles very acuminate. Elytra striated, minutely punctured. Antennæ and legs ferruginous. Tarsi ochraceous.

In the Cabinets of Mr. Cooper and Mr. Westwood.

MONS. LATREILLE in his *Histoire Naturelle* placed *Throscus* next to *Elater*, and after removing it to the *Byrrhidæ* in his *Genera Crustaceorum* and *Considérations générales*, he has again taken up his first opinion in the *Familles Naturelles*, the last of his

valuable works. Excepting the power it possesses of concealing its antennæ and legs in grooves, there does not appear to be any good reason for placing *Throscus* with the *Byrrhidæ*, for neither the trophi nor antennæ agree with those of the genera contained in that family. Linnæus had placed our insect from analogy with the *Elaters*, and Latreille for the very best reasons, viz. the affinity of the trophi, has finally adopted the same arrangement: we shall therefore offer no apology for departing from the more generally received opinion in this country, but merely observe that the *Elaters* are provided with the same means of protecting their antennæ; and we consider the form of this organ a generic and not a family character, since they are sometimes even flabellate, at others pectinated or serrated in the males and simple in the females.

It is probable that *Throscus* lives in wood in the larva state. No species has been described until now, excepting

1. *T. dermestoides* Linn. *Syst. Nat.* 2. 656. 38.—adstrictor Payk., *Ill., Fab., Panz.* 75. 5.—clavicornis Oliv. 2. pl. 8. f. 85.

Taken the middle of June and July by Mr. Bainbridge with *Anaspides*, from white thorns and umbelliferous plants, near Bexley, Kent; also by Mr. Westwood in sand-pits and upon paling at Coombe Wood.

For the following remarks we are indebted to Mr. Westwood.

2. *T. obtusus* Westw. *Mss.*—*Nob.*

“My new species is distinguishable from *T. dermestoides* not only by being much smaller, of a more castaneous colour, and a broader outline (whence my name *obtus*), but also by the front of the head wanting the two elevated lines observable in that species. I have as yet seen but three specimens of it; one of them was found at the foot of a pollard oak in Plaistow Marshes by my friend A. Cooper, Esq. R.A., and the other two specimens were beaten by myself likewise from an oak-tree near the village of Ensham (between Oxford and Witney) at the beginning of last September.”

It may be further observed, that *T. dermestoides* has the thorax minutely as well as coarsely punctured, the elytra more deeply striated with punctures, having an irregular row of large punctures between them.

The plant is *Dianthus Armeria* (Deptford Pink) from Darent Wood.



TRACHYS MINUTA.

ORDER Coleoptera.

FAM. Buprestidæ.

*Type of the Genus, Buprestis minuta Linn.*TRACHYS *Fab., Gyl., Soli., Curt.*—*Buprestis Linn., Oliv.*

Antennæ free, inserted in a small cavity on the inside of the eyes, at the base of the clypeus, not remote, 11-jointed, 2 basal joints stout, 1st long but very much bent and curved at the base, 2nd elongate-ovate, 4 following slender, somewhat obovate, the 3rd being a little the longest, the remainder compressed and slightly produced internally, excepting the apical joint which is ovate (6).

Labrum suborbicular, truncated at the base and sharply notched in the middle, with 2 or three short bristles on the sides (1).

Mandibles rather large in proportion, subtrigonal-conic, the outer angle elongated at the base (2).

Maxillæ terminated by a rounded lobe, with a minute one inside, both densely ciliated. *Palpi* clavate and 4-jointed, basal joint subovate, 2nd rather long, pyriform-truncate, 3rd cup-shaped, 4th the largest, barrel-shaped (3).

Mentum large and trigonal, the sides sinuated. *Lip* small.

Palpi minute, triarticulate, basal joint small, 2nd cup-shaped, 3rd ovate-truncate (4).

Body depressed. Head short and broad, face concave; eyes not prominent, lateral and oval. Thorax short, broad, narrowed before, anterior margin bisinuated, the base very much sinuated, forming acute angles and a lobe over the Scutel, which is exceedingly minute: antepectus with a short rounded lobe, fitting into a cavity in the medipectus. Elytra broader than the thorax, ovate-trigonal, the shoulders prominent, sides slightly emarginate, apex rounded: wings ample. Legs compressed, lying in cavities in repose, nearly of equal length, slender: thighs not stout: tibiæ as long as the thighs, slender: tarsi short, all dilated, 5-jointed, 4 basal joints very short, membranous and spongy beneath, 5th elongated, clavate: claws small, very much hooked (5†).

MINUTA *Linn.*—*Curt. Guide, Gen. 301. 2.*

Violaceous or bluish black; face polished, æneous, concave, channelled in the middle; thorax subcupreous, with scattered shining ochreous hairs, the angles and a line along the base depressed; elytra with various depressions and large shallow punctures forming indistinct striæ; a space at the base formed by shining ochreous hairs, as well as a transverse line before the middle, and 2 undulating ones towards the apex and looped at the suture.

In the Author's and other Cabinets.

THE valuable Essay of Mons. Solier in the *Annales de la Soc. Ent. de France* has greatly contributed towards the classifi-

cation of this superb tribe of insects, which now amounts to about 600 species: of these 14 only have been found in England, several of which have been most probably imported in timber; and although this is a proof that the Buprestidæ are not attached to northern latitudes, yet it is remarkable that twice as many are actually natives of Sweden, and Gyllenhal has described 46 species in his *Insecta Suecica*, including those that are supposed to have been introduced by intercourse with foreign countries.

Trachys is a singular little group of this family, readily recognised by its short broad ovate figure, and although so dissimilar to *Aphanisticus* (pl. 262.) it is evidently closely allied to that genus. M. Solier not having been able to detect the maxillæ and palpi of Trachys, I am happy in the opportunity of adding figures of them.

Three species of this circumscribed genus have been found in the neighbourhood of London.

1. *nana* Fab.—*Panz.* 95. 9.

“Obscure black, somewhat æneous, smooth; face excavated, elytra triangular, with punctures somewhat in striæ and a lateral elevated line.” *Gyll.* v. 1. 464. 3.

May and June, amongst underwood in Coomb Wood.

2. *minuta* Linn.—*Curt. Brit. Ent. pl.* 686.

May 13th on Sallows, Coomb Wood and Epping Forest, J. C.; end of May, a pair in Parley Copse, Mr. Dale; June, Clapham, Park Wood, Bedfordshire; July and August, Metton and Monk’s Woods; on birch and nut trees, Darent, Norwood, &c.

3. *pygmæa* Fab.—*Don.* v. 8. *pl.* 282.

Head and thorax smooth, cupreous or æneous, elytra blue or green, with lines of strong punctures.

May, in a puddle of water in Coomb Wood, Mr. MacLeay, and the late Mr. Joseph Hooker found one on *Menyanthes trifoliata* (pl. 294.) at St. Faith’s in Norfolk. It has also once occurred in Cambridgeshire.

The Plant is *Bryonia dioica* (Red-berried Bryony).



APHANISTICUS PUSILLUS.

ORDER Coleoptera. FAM. Buprestidæ *Leach.*—*Sternoxi Lat.*

Type of the Genus Buprestis pusilla Oliv.

APHANISTICUS *Lat., Leach., Sam.*—*Buprestis Fab., Oliv., Gyll.*

Antennæ inserted under the eyes, clavate, 11-jointed, basal joint robust oblong and curved at the base, 2nd globose, 5 following slender, of equal length, obovate, the remainder forming a serrated club, the 8th joint being obtrigonal, the 9th and 10th transverse, being produced on the inside, 11th oblique ovate (6).

Labrum pocket-shaped, anterior margin ciliated (1).

Mandibles trigonal, acute (2).

Maxillæ terminated by a large rounded and ciliated lobe with a very minute one on the internal side. *Palpi* small, 4-jointed, basal joint very minute, 2nd appearing the longest, clavate truncate, 3rd short subquadrate, 4th pear-shaped (3).

Mentum transverse oval. *Labium* and *Palpi* undiscovered (4).

Trophi on the underside of the Head, which is subglobose and emarginate with a deep channel in front. Eyes small round, placed at the anterior angles of the head, not lateral. Thorax subquadrate, narrowed before, posterior margin slightly lobed in the centre. Scutellum minute. Elytra narrow, emarginate on the outside towards the base, each being rounded at the apex. Wings not longer than the body. Legs very similar. Thighs very robust, subovate. Tibiæ short and stout. Tarsi 5-jointed, basal joint the smallest, the 3 following with the membranous margin increasing in size, the 4th being the largest and cordiform, 5th not extending beyond the 4th, slender and terminated by a single Claw (5, a fore leg).

PUSILLUS *Oliv. v. 2. tab. 12. f. 133.*—*Gyll. 1. 460. 20.*—*emarginatus Fall., Leach., Sam.*

Black with an æneous tinge, shining, appearing granulated under a very high power. Head and thorax variolose, the latter with a transverse impression before and another beyond the middle, the sides margined.—Elytra uneven at the base with several rows of large but not well defined punctures.

In the Author's and other Cabinets.

APHANISTICUS is distinguished from Agrilus, which it most resembles, by its longer sulcated head and clavate antennæ; the eyes are not lateral, the thorax is somewhat conical and margined on the sides; the labrum is narrowed at the base, and not at all emarginate; all the joints of the tarsi have membranous margins, except the last, which produces only a single claw. I am unable to describe the labium and its palpi, which are very small, having lost or destroyed them in dissecting the mouth.

Two species only of this genus have been discovered, one of which is found in Britain, and was considered by Dr. Leach to be the *B. emarginata* of Fabricius; it certainly agrees very well with his short description: but as he described it from Bosc's Cabinet, and Olivier has done so likewise, at the same time giving a figure and description which are very different to our insect, I have followed Gyllenhal and Dejean in adopting Olivier's name, *pusilla*, his figure and description perfectly agreeing with our British species.

This minute insect has been several times taken near the gravel pit in Coombe Wood, early in April, by collecting the moss and carrying it home in bags and shaking and examining it upon a white cloth,—an admirable plan for obtaining minute insects. Major Gyllenhal says it is found in grassy places, especially near the sea; and Mr. Hope has detected it in similar situations near Southend, Essex. I believe it was observed by Dr. Leach in Devonshire, at a later period of the year; and I think Mr. Samouelle once beat it out of a hedge at Coombe.

The plant is *Melampyrum cristatum* (Crested Cow-wheat), communicated by Professor Henslow.



Phacelia latifolia Nutt.

AGRILUS CHRYSEIS.

ORDER Coleoptera. FAM. Buprestidæ *Leach*. Sternoxi *Lat*.

Type of the Genus Buprestis viridis Linn.

AGRILUS *Megerle*. *Buprestis* *Linn.*, *Fab.*, *Lat.*, *Leach*, &c.

Antennæ inserted in a cavity between the eyes, close to the base of the clypeus, serrated in both sexes, 11-jointed, 1st joint rather short, bent at its base, 2nd and 3rd short, nearly of equal length, 4th slightly, 5th and following very much produced on the internal edge (fig. 6).

Labrum exserted, quadrate, slightly emarginate, scarcely ciliated (1).

Mandibles large in proportion to the rest of the mouth, triangular, thick, somewhat acute (2).

Maxillæ membranaceous, hairy, bilobed, internal lobe small:

Palpi 4-jointed, 1st joint minute, 2nd somewhat long, clavate, 3rd short, 4th the longest, ovate, truncate (3).

Mentum triangular: *Palpi* apparently only 2-jointed, 1st joint short, 2nd long, conical: *Lip* projecting as far as the *Palpi*, acuminate, ciliated (4).

Head very retuse. Thorax cylindric, nearly quadrate, posterior margin sinuated, produced in the centre, applied to the base of the elytra; having a mucronated process between the anterior pair of legs. Scutellum transverse, posterior margin rounded. Elytra very long, subulated, slightly serrated at the apex. Wings 2. Abdomen thick, not formed for leaping. Feet not very short. Tarsi 5-jointed, 3rd joint considerably dilated, 4th bilobed, 5th cylindric with simple claws (5 a fore leg).

CHRYSEIS *Zeigler*.

Golden purple above, beneath metallic with a blackish tinge, pubescent. Head finely and irregularly channelled longitudinally on the crown. Thorax finely and irregularly punctured and channelled transversely, the anterior margin slightly elevated, a fovea in the centre near the posterior margin, and an impression on each side. Elytra thickly and minutely punctured, having a scabrous appearance, with a few short bristles at the apex. Antennæ and legs æneous black. Eyes brownish black.

In the Cabinets of Mr. Stone and Mr. Griesbach.

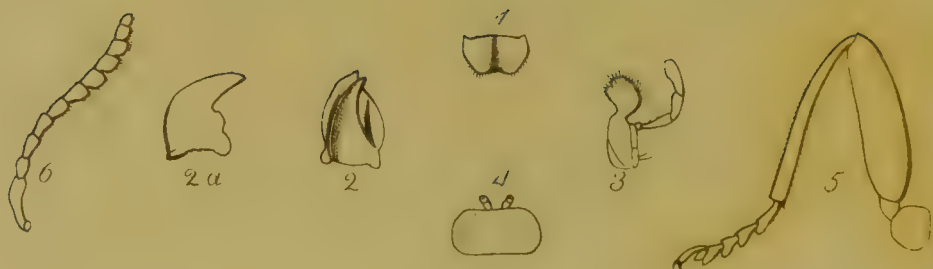
IN a former part of this work the arrangement of the extensive genus *Buprestis* was alluded to; and through the kindness of my friend W. S. MacLeay, Esq. I am now enabled to

give the generic name of the cylindric group, which is the subject of the present paper, as well as the specific name of the species, which is quite new to this country.

Megerle appears to be the first who has paid attention to this splendid family, and has, I believe, published his observations in the Vienna Transactions, which unfortunately I have not been able to consult; the characters have therefore been necessarily drawn from my own observations. Upon comparison with those of *Buprestis* (folio 31), it will be seen how essentially different the organs of manducation are, which might be expected from the peculiar habit of the group.

The New Forest produced last year 2 species of this family new to Britain, *Buprestis nitidula*, already figured, and *Agrilus chryseis*. A specimen of the latter was beat out of an old whitethorn bush, between Brockenhurst and Bottomsley, Hampshire, the end of September, and transmitted to Mr. Stone; and Mr. Griesbach has favoured me with the sight of another specimen, taken in Windsor Forest about the same time, inclining rather more to a dull purple. Two other species of *Agrilus* are found in this country, *Buprestis biguttata* Linn., and *B. viridis* Linn.; the former I have had the pleasure of capturing in Darent Wood in June, upon the trunks of trees, as well as flying in the heat of the day: the latter species appears to be universally distributed over the country, and is much attached to the oak; I have several times found it in Kensington Gardens, in June. Upon the continent there are several species closely allied to this insect, which may have been overlooked or confounded with it, from our not being well acquainted with them.

Verbena officinalis (Vervain) is figured in the plate.



BUPRESTIS NITIDULA.

ORDER Coleoptera. FAM. Buprestidæ Leach.

Type of the Genus B. nitidula.

BUPRESTIS Linn., Fab., &c.

Antennæ inserted near the base of the clypeus, short, somewhat filiform, serrated in both sexes, 11-jointed, first joint long, second and terminal joints small. (6.)*Labrum* small, exserted, attenuated before, slightly emarginate. (1.)*Mandibles* gaping, small, more or less obtuse, bifid towards the apex. (2. the under side : 2. a. the upper side.)*Maxillæ* small ; the apex slightly bifid, hairy : *Palpi* filiform, 4-jointed, first joint very small, last slightly securiform. (3.)*Mentum* oblong-quadrate : *Palpi* very small, approximating, 3-jointed, nearly concealed. (4.)*Head* very retuse. *Thorax* short, broad, transverse, depressed, having a mucronated process between the anterior pair of legs ; the posterior margin straight and applied to the base of the elytra. Scutellum somewhat triangular, small. *Elytra* elongated, trigonate, depressed, entire, neither serrated nor spined. *Wings* two. *Abdomen* not formed for leaping. *Feet* short ; *tarsi* 5-jointed, articulated, broad cordate trigonate, the last joint cylindric with simple claws. (5.)

NITIDULA Linn. Syst. Nat. 2. 662. Fab. Ent. Syst. t. 1. pars 2. p. 214. n. 123.

Ovate, golden green. Head and thorax minutely and irregularly punctured, the latter having a slight impression down the centre and a foveola near the posterior angle. *Elytra* more green than the rest, broader at the base than the thorax, attenuated towards the apex, rounded ; rugose, punctured, having obscure striæ ; beneath green, very glossy : legs and antennæ black, tinged with brassy green.*In the Cabinets of Mr. Dale and the Author.*

THE superb family of *Buprestidæ* has recently been divided into several Genera, agreeably to the geographical distribution of the various groups discovered in the East and West Indies, the Brazils, the Cape of Good Hope and New Holland : the European species have also been divided, the cylindrical ones *B. viridis* Linn. and *B. biguttata* Linn. having

been formed into another Genus; and Fabricius having long since established the Genus *Trachys*, we had but one true *Buprestis* (*Salicis*) known to inhabit this country until the brilliant little species figured was detected by Mr. Dale and myself the early part of last June in an excursion to the New Forest: we beat four out of white-thorn flowers in the neighbourhood of Brockenhurst in the heat of the day, at which time they flew with great celerity.

The larvæ of this family live in wood, and are very destructive: in their œconomy they resemble the *Cerambycidæ*, and like them also they are frequently conveyed in an imperfect state in timber from their native country; which accounts for the splendid exotics belonging to these families that are occasionally met with by Entomologists in this kingdom.

Mr. Marsham in the 10th volume of the Linnean Transactions relates an extraordinary fact concerning the longevity of a species of this Genus (*B. splendens* Fab.); the perfect insect was seen to emerge from a desk made of Baltic fir that had been in the Office at Guildhall upwards of 20 years: it is most probable that it remained in the larva state the greater portion of that long period. The desk having been afterwards planed, the passage which the insect formed was discovered.—In the 1st volume of the same Transactions an account is also recorded in the Minutes of a species resembling the *B. canaliculata* of Fab. having eaten through 15 pieces of muslin from Bengal.

Messrs. Kirby and Spence inform us that the brilliancy of some of the eastern species has rendered them of value to the ladies of China, whose dresses are embroidered with the resplendent elytra of the *Buprestis vittata*.

Cratægus Oxyacantha (Haw-thorn or White-thorn) is figured in the Plate.



Gentiana verna L.

MELASIS BUPRESTOIDES.

ORDER Coleoptera. FAM. Sternoxi *Lat.* Buprestidæ *Leach.*

Type of the Genus Elater buprestoides Linn.

MELASIS *Fab., Oliv., Lat.* Elater *Linn.*

Antennæ inserted between the eyes near the margin, 11-jointed : *male* pectinated ; 1st joint long, 2nd small globose, 3rd short, 4th and following pectinated (6) : *female* serrated ; 1st joint long, 2nd and 3rd of nearly equal length somewhat cylindric, 4th and following joints less produced internally and more robust than in the male (6. a.)

Labrum concealed beneath the clypeus, very minute, slightly emarginate (1.)

Mandibles trigonate strong acute, slightly indented on the internal edge (2.)

Maxillæ short terminated by a membranaceous and hairy lobe :

Palpi hairy 4-jointed, 1st joint small, 2nd large, 3rd short securiform, 4th large, dilated in the middle, slightly truncated (3.)

Mentum transverse, anterior angles rounded, with a small tooth in the centre : *Palpi* attached to 2 moveable scapes, arising together from behind the mentum, 3-jointed, 1st joint long, 2nd shorter, 3rd large truncated, having apparently a small tubercle in the centre : *Lip* long, bifid, membranaceous (4.)

Head broad, nearly concealed in the thorax. Eyes small. Thorax more or less emarginate before, posterior angles produced into spines. Sternum not mucronated. Scutellum long. Body cylindric. Wings 2. Legs short. Tibiæ broad flat. Tarsi compressed entire, 5-jointed, 1st joint the broadest and longest, terminal joint slender. Claws simple (5 a fore leg).

BUPRESTOIDES *Linn. Syst. nat. t. 1. pars 2. p. 656.*—*flabellicornis Fab. Ent. Syst. t. 1. pars 1. p. 244.*

Obscure black, glossy, inclining frequently to castaneous, especially the elytra. *Antennæ*, *palpi* and legs rufous. Head pubescent punctured. Thorax slightly narrowed behind closely covered with small scabrous tubercles, with an impressed line down the centre. Elytra appearing rough under a lens with 9 striæ gradually approximating from the base to the apex.—In some specimens the elytra are chesnut colour, and the abdomen beneath somewhat rufous.

In the Author's and other Cabinets.

OF this genus, which connects the *Buprestidæ* with the *Elate-ridæ*, there is but one species known to inhabit our island ; and

as it varies exceedingly in size and colour as well as in the strength of its sculpture, it is probable that Olivier's and Panzer's figures are of our insect, although Gyllenhal is disposed to hold a contrary opinion.

Dr. Leach divided the *Sternoxi* of Latreille into two families, and has referred *Melasis* to the latter, from its wanting the spring beneath, which distinguishes the *Elateridæ*; its very cylindric form also, (so very much approaching the group containing *Buprestis viridis* L.) separates it at once from the *Elaters*; at the same time it cannot be denied that the space between the elytra and thorax and the thick terminal joint of the palpi do not well agree with the *Buprestidæ*.

The specific name which our insect bears in both the works of Linnæus has been restored, as well from respect as in justice to that great man; and it is to be regretted that the praise due to Fabricius for having established the genus, should have been diminished by the unnecessary confusion he has created, in changing the Linnæan specific name, and afterwards describing another insect under the name of *Elater buprestoides*.

In the year 1811 I found a perfect specimen dead in the decayed arm of a tree, in a wood in the neighbourhood of Halesworth, Suffolk. Dr. Herschel, however, is said to have first observed it at Windsor: it has since been taken in some abundance in a decayed tree in the New Forest, by Mr. Samouelle and Mr. Chant: the males are frequently smaller than the females,—one of the former sex is figured. It is common in Sweden and Germany, but rare about Paris and in Britain. Latreille says it walks badly, and if it fly, it cannot apply the vigour and activity which so strongly mark the family to which it belongs.

It inhabits dead decaying trees, which it perforates like the *Anobia*; it has been detected in the beech, saw, alder, and birch.

The plant figured is *Linum perenne* (Perennial Flax), communicated by Professor Henslow.



ELATER ATERRIMUS.

ORDER Coleoptera.

FAM. Elateridæ.

Type of the Genus, Elater cupreus Fab.

ELATER Linn., Fab., Gyll., Curt.—Ludius Lat.

Antennæ inserted before the eyes, on each side of the clypeus, longer than the head and thorax, 11-jointed, basal joint short stoutish and ovate, 2nd and sometimes the 3rd minute and oval, the remainder compressed oblong, serrated or pectinated internally in the male (6).

Labrum transverse-semioval, the margins ciliated with long bristles, the apex trigonate, fleshy and pubescent (1).

Mandibles broad at the base, very much curved, the apex broad and bifid, the internal margin membranous and ciliated below the middle (2).

Maxillæ terminating in 2 very pilose lobes. *Palpi* short, stout, clavate and 4-jointed, basal joint small, subglobose, 2nd elongate, pear-shaped, truncated obliquely, 3rd shorter, obovate, 4th the longest, hatchet-shaped (3).

Mentum transverse, narrowed anteriorly with a few long bristles at the angles. *Lip* rather long and trigonate. *Palpi* inserted near the sides towards the apex, short and triarticulate, 2 basal joints small, obovate, 3rd large and hatchet-shaped (4).

Head subovate: eyes small lateral and orbicular. Thorax considerably broader than the head, elongate-ovate, truncated before and at the base, which is broadest and sinuated, the angles produced into spines; the sternum with a spine beneath (*T**), which rests in a cavity between the intermediate coxæ: scutel distinct and ovate. Elytra a little broader than the thorax, very long, the apex more or less conical, sometimes notched. Wings ample. Legs moderate and slender: thighs short: tibiæ simple: tarsi slender, sometimes lobed, 5-jointed, basal joint not longer than the terminal one: claws long and slender (5, a fore leg).

ATERRIMUS Linn. F. S. No. 726.—Curt. Guide, Gen. 309. 23.

Opake charcoal-black, clothed with minute depressed black hairs: clypeus trigonate and extending a little over the labrum; the trophi nearly concealed: antennæ not longer than the thorax, punctured, serrated, 2nd and 3rd joints minute: head and thorax thickly punctured and finely shagreened, the latter oval, with the hinder angles a little divaricating, acute with sharp edges, a short channel near the base: scutel and elytra thickly punctured, the latter slightly glossy, somewhat bluish-black, the striæ clean and punctured; apex emarginate, forming 2 small points: legs very slender, knees a little ferruginous; claws ochreous: underside minutely punctured.

In the Author's Cabinet.

THE larvæ of these insects live in decayed trees, under the bark and in the earth, they have horny skins, and one of them,

called the wire-worm, is very destructive in our fields and gardens. The beetles are called Elaters from a singular power they possess of leaping when laid on their backs, by which means they recover their legs; when thus placed they sometimes contract their legs and lie as if dead, but they shortly press their extremities against the surface on which they are placed, and by means of the spine and socket before alluded to, they dexterously leap up several inches. They fly well, and are found on trees, grass, under stones, in flowers, decayed wood, under bark, &c. At least 700 species have been discovered in different parts of the world, which have been divided into genera by Eschscholtz; but I can do no more than give a type of each of those that are British.

STEATODERUS *Esch.*

1. ferrugineus *Linn.*—*Don.* 10. 356. 1.—*Panz.* 10. 10.
Ludius Lat.—*Ctenicera Lat.*
4. pectinicornis *Linn.*—*Don.* 10. 356. 2.—*Panz.* 77. 1.
Ampedus Meg.—*Elater Esch.*
8. sanguineus *Linn.*—*Don.* 15. 508. 2.—*Panz.* 5. 3.
Limonius Esch.
16. minutus *Linn.*—*angustus Herb.*
Aplotarsus Ste.
21. bipustulatus *Linn.*—*Panz.* 76. 10.
Ectinus Esch.?
23. aterrimus *Linn.*—*Curt. Brit. Ent. pl.* 694.

My specimen, the only one I have seen, was taken at Windsor by Mr. C. Griesbach. I do not doubt that it is the true *aterrimus*, but Gyllenhal's seems to be another species.

Lepidotus Meg.

25. holosericeus *Fab.*—*Oliv.* 2. 31. t. 3. f. 33.—*undulatus Herb.*
Agrypnus Esch.
26. murinus *Linn.*—*Oliv.* v. 2. gen. 31. t. 2. f. 9.
Melanotus Esch.—*Cratonychus Dej.*
27. fulvipes *Herb.*—*castanipes Mars.*
Sericosomus Serv.—*Sericus Esch.*
29. brunneus *Linn.*—*Oliv.* t. 3. f. 30.
Agriotes Esch.
30. sputator *Linn.*—*variabilis Herb.*
Hypolithus Esch.—*Cryptohypnus Esch.*
33. agricola *Zet.*—*Don.* 16. 545.
Selatosomus Ste.
39. æneus *L.*—*impressus, cyaneus, Don.* 15. 535. 1 and 2.
Drasterius Esch.
41. bimaculatus *Fab.*—*Panz.* 76. 9.
Cardiophorus Esch.
42. thoracicus *Fab.*—*Panz.* 6. 12.
Ctenonychus Ste.
45. cylindrus *Leach.*
Athöus Esch.
47. niger *Linn.*—*Ol.* t. 6. f. 65.—*nigrinus Mars.*
Dolopius Esch.
55. marginatus *Linn.*—*lateralis Ol.* t. 8. f. 80.—*suturalis, fulvus, Mars.*
Adrastus Esch.
56. limbatus *Fab.*—*Ol.* t. 7. f. 73.? *nitidulus Mars.*—*pusillus Herb.*

The Plant is *Dactylis glomerata*, Rough Cock's-foot-grass.



DASCILLUS CERVINUS.

ORDER Coleoptera.

FAM. Telephoridæ Leach.

Malacodermi Lat.

Type of the Genus Chrysomela cervina Linn.

DASCILLUS Lat.—Atopa Payk., Fab., Gyll.—Cistela Oliv.—Crioceris Marsh.—Chrysomela Linn.—Ptinus De Geer.

Antennæ inserted on each side the nasus before the eyes, long, filiform, pubescent, 11-jointed; 1st and 2nd joints small, 3rd longer than the 4th, the remainder slightly increasing in length to the last which is as long as the 3rd and submarginate at the apex (6).

Labrum tongue-shaped, thick and rigid at the base, membranous and pubescent at the margin (1).

Mandibles alike, long porrected, slightly bent and lanceolate towards the apex, with a tooth on the internal side, very much dilated at the base, with a thin submembranous margin at the angle (2).

Maxillæ terminated by 2 lobes, the inner and smaller one coriaceous and pilose, the outer one long, divided into 2 very pilose and membranous laciniae, the internal the broadest and shortest.—*Palpi* long, filiform, pilose, 4-jointed, basal joint small, 2nd the longest, 3rd about half as long, 4th rather longer and broader wedge-shaped, somewhat obovate-elongate (3).

Mentum triangular, anterior margin rounded. *Labium* elongated, forming two divaricating membranous and pubescent lobes, each being divided into 2 laciniae, the external one the shortest.—*Palpi* arising from the sides of the lip, shorter than the lobes, triarticulate, 2 first joints short producing a few long hairs, 3rd almost as long as the other 2, obovate, but truncated a little obliquely (4).

Head rather small. Eyes small lateral. Thorax broader than the head transverse, narrowed before, sides margined, posterior margin sinuated, the angles acute. Scutellum semiorbicular. Elytra elongate-ovate, convex margined. Wings ample. Tibiæ somewhat clavate, with 2 spines at the apex. Tarsi 5-jointed, 3 first subcordate, each producing 2 fleshy lobes beneath, 4th bilobed, membranous at the inner edges, 5th slender clavate. Claws bent. Pulvilli very minute (5, a fore leg).

CERVINUS Linn. Faun. Suec. 575.—Payk. Faun. Suec. 2. 116.

Black, densely clothed with ochraceous depressed pubescence, minutely and thickly punctured; tips of mandibles, palpi and tarsi, inclining to castaneous: elytra having several lines of irregular and rather strong punctures.

Cinerea Fab. Ent. Syst. 2. 42. 2. Black; elytra, antennæ and legs dull ferruginous, the whole covered with ochreous pubescence.

Cinerea Marsh. Ent. Brit. 220. 3.—Ferruginous, beneath fuscous, covered with ochreous pubescence.

In the Author's and other Cabinets.

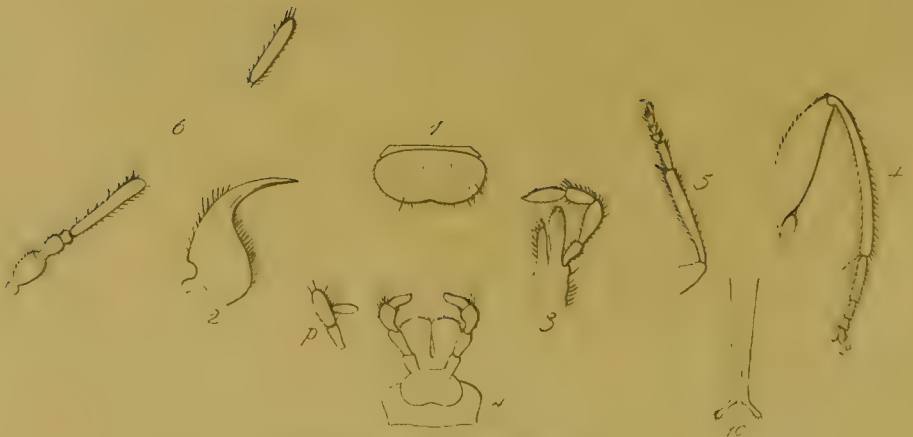
THE imperfect knowledge that Linnæus unfortunately had of the trophi of insects not only often led him into error, but prevented him probably from bequeathing to the world a more natural system than has hitherto been discovered. Fabricius no doubt finding that it was impossible to form a natural system by mere analogy, began to examine the Instrumenta Cibaria; and this led Latreille to the accurate and elaborate investigations which have been the admiration of men of science; and to his successful labours we are indebted for the comparative facility with which the affinities of the minutest insects are determined. The first work in which that learned naturalist showed his attachment to the Fabrician system, was his "*Précis des Caractères Génériques des Insectes*," published in 1796, in which insects were first divided into families, and their characters derived from the mouth. In this work the genus *Dascillus* was established; and about two years after, Paykul characterized the same insect under the name of *Atopa*. The remarkable structure of the maxillæ and labium are alone sufficient to separate it from all other insects, and could not fail to attract the notice of these acute observers of Nature.

The two species described of this genus are probably merely varieties or the sexes of

D. Cervinus Linn.—The beetle represented upon the plant seems to be the Linnæan insect, and the magnified figure shows the tawny variety, which may be the female. The scent of several of these which I took off Alders and Brambles was very offensive and powerful, similar to that of the house-bug; whereas the dark ones either had no scent, or smelt merely of the plant on which they were found.

D. Cervinus and its varieties appear in May and June, and are very abundant in the north of England and in Scotland: on the 25th of last June there were multitudes upon various plants, and on the May-flowers, on the mountains near Ambleside.

Mr. A. Mathews, A.L.S. has informed me, that whilst he was collecting Orchideæ in Kent on the 29th of May, 1825, he found three specimens of our beetle at the roots of *Orchis ustulata*, about four inches beneath the surface of the ground, which induced him to suspect that the larvæ might feed upon the roots of that plant. The Dwarf Orchis was in flower upon the spot where I met with two or three specimens, ascending Arthur's Seat.



ELODES PINI.

ORDER Coleoptera. FAM. Telephoridæ.

*Type of the Genus, Cyphon lividus Fab.*ELODES *Lat., Curt.*—*Cyphon Payk., Fab., Gyll.*—*Cistela Fab., Panz.*
—*Galleruca Fab.*—*Crioceris Mars.*—*Chrysomela Linn.*

Antennæ nearly or quite as long as the insect, not very remote, inserted in front of the face, between the eyes, filiform and 11-jointed, basal joint the stoutest, obovate, 2nd subglobose, 3rd minute globose, 4th elongated, the remainder rather shorter, a little dilated at the apex, sometimes giving them a slightly serrated appearance, 11th joint rounded at the apex (6, the 4 basal and last joints).

Labrum large, transverse-ovate, hairy, slightly emarginate in the centre (1).

Mandibles dilated a little at the base, terminating in a strong curved and acute claw, densely ciliated on both sides (2).

Maxillæ terminated by 2 slender lobes, internal one the shortest, both ovate and densely ciliated at the apex. *Palpi* hairy, 4-jointed, basal joint obovate-truncate, 2nd long and clavate, 3rd ovate, as long as the 1st; 4th nearly as long as the 2nd, elliptic, apex a little acuminate (3).

Mentum transverse, basal angles acute, anterior rounded, concave before with the centre a little produced. *Lip* long broad cordate and ciliated, formed of 2 parallel lobes. *Palpi* attached to 2 scapes at the base of the lip, triarticulate, basal joint elongated, 2nd stout, hairy outside, subpyriform-truncate, 3rd rather short, subfusiform, bicurved (4); sometimes the 2nd joint is elongated and the terminal one seems to be attached to the middle (p).

Head *nutant, suborbicular*: eyes *lateral, orbicular*. Thorax *transverse, semiorbicular, projecting over the head, the margins a little reflected, the base bisinuated*: scutellum *trigonal*. Elytra *long and elliptical*. Wings *ample*. Abdomen *furnished with an exerted tube in one sex, open beneath and cleft at the apex, the lobes producing 2 divaricating clavate processes ciliated at the apex* (10). Legs, *anterior a little the shortest, hinder the longest*: thighs *compressed, rather inflated*: tibiæ *armed with spiny bristles externally, spurred at the apex*; hinder pair *long and curved* (5 †): tarsi *hairy, 5-jointed, basal joint elongated especially in the hinder pair, 3rd short, 4th bilobed, 5th small, clavate, claws small* (5, a fore leg).

PINI *Curt. Guide, Gen.* 312.

Pitchy shining, thickly and minutely punctured, and clothed with short yellow pubescence: thorax very short, the anterior margin not projecting over the head, which is rather broad: elytra ovate, twice as broad as the thorax, the shoulders projecting: antennæ piceous, 3 basal joints ochreous; mouth and legs ochreous, tarsi fuscous except the basal and apical joints.

In the Author's Cabinet.

THE trophi of *Elodes* are very different to those of *Dascillus* (pl. 216.), to which it is considered to be allied; and the labial palpi have sometimes a furcate appearance from the apical joint being inserted at the middle of the antecedent one, but as this character does not seem to be common to all, it may be only a sexual or specific distinction.

The following are British species.

1. *melanurus* *Fab.*—*pallida* *Mars.* p. 227. n. 20.

“Inhabits the white-thorn and umbelliferous plants.” Sam. June, Isle of Wight; July, Glengariff; Aug., alders, Lyndhurst. J. C.

2. *lætus* *Panz. fasc.* 8. n. 8.

June, out of an oak near Lyndhurst. J. C.

3. *lividus* *F.*—*mollis* *Mars.*—*assimilis* and *testaceus* *Ste.* vars.? Panzer’s *pallida* *fas.* 8. 7. seems to be this species, although his description is that of *melanurus*.

March, Coomb Wood; June, Shooter’s Hill: J. C. “June on the leaves of willows and alders.” Dill.

4. *obscurus* *Ste.* “A single specimen caught within the metropolitan district.”

5. *marginatus* *Fab.*—*nimbata* *Panz.* 24. 15.

June, alders, near Ambleside, J. C.; Leeds, Mr. Atkinson; “on various plants in moist parts of the Penllergare woods.” Dill.

6. *pubescens* *Fab.*—*Cryp. dorsalis* *Mars.*

Common everywhere on reeds and alders.

7. *griseus* *F.*—*coarctatus* *Pk.*—*nigricans* and *concolor* *Mars.* vars.

Common everywhere. June, meadows, near Ambleside.

8. *Padi* *Linn.*—*discolor* *Panz.* 99. 8.

Common in Norfolk and around London.

9. *ater* *Ste.* “Found near London.”

10. *ochraceus* *Ste.* Taken at Ripley.

11. *immunis* *Ste.* Found near Windsor.

12. *Pini* *Curt. B. E. pl.* 602.

This insect has so much the habit of *S. hemisphæricus* that it forms a connecting link between it and *Elodes*: I have found it in Scotland, and in great numbers in July 1835, on the Larches at Castle Connel near Limerick. It agrees with Gyllenhal’s var. *b* of *E. griseus*, but not with Marsham’s *C. nigricans*, and as I have not detected a single variety I have no doubt of its being a distinct species.

13. *angulosus* *Mars.* 228. 24. June, rare in woods, Surrey.

14. *dubius* *Ste.* June, rare in woods, Kent.

The Plant is *Verbascum nigrum* (Black Mullein).



LYCUS MINUTUS.

ORDER Coleoptera. FAM. Telephoridæ *Leach*.—Malacodermi *Lat*.

Type of the Genus Lampyris sanguineus Linn.

LYCUS *Fab.*, *Oliv.*, *Lat.*, *Leach*.—*Cantharis Linn.*—*Lampyris Linn. Marsh., Don.*

Antennæ inserted at the base of the clypeus, rather stoutest in the middle, compressed, sometimes pectinated, 11-jointed, basal joint not so long as the 3rd, the 2nd smallest, both subovate, 3rd and remainder subovate-truncate, slightly decreasing in length to the last which is rather longer and oval (6).

Labrum exserted, semiorbicular, producing long bristles and a large rounded and pubescent membrane beneath (1), *Tongue?* rounded membranous and pubescent being the counterpart of the membrane of the labrum.

Mandibles small, slender, bent and very acute, having a few bristles on the external surface (2).

Maxillæ terminated by a straight lanceolate lobe clothed with long hairs, internally ciliated with curved hairs, producing a small lobe below. *Palpi* all nearly uniform, 4-jointed, basal joint the smallest, truncated obliquely; 2nd large obtrigonal, 3rd smaller transverse, 4th the largest hatchet-shaped (3).

Mentum oblong. *Lip* very small and pubescent. *Palpi* very robust, triarticulate, basal joint the smallest, cylindric, truncated obliquely, 2nd obtrigonal, 3rd rather the largest, hatchet-shaped (4).

Nasus sometimes produced and forming with the mouth a kind of rostrum. Head short. Eyes small. Thorax subquadrate, or semi-orbicular, rugose. Scutellum trapezoid. Elytra depressed, very long and twice as broad as the thorax. Wings ample. Legs robust. Tibiæ truncated obliquely, with very minute spurs. Tarsi 5-jointed, basal joint the smallest, 2nd and 3rd obcordate, 4th bilobed, 5th slender. Claws small and acute, with a tooth near the base, (5, a fore leg).

MINUTUS *Oliv.*, *Fab.*—*pusilla Gmel.*—*Marsh.* 363. 3.

Black, covered with short depressed hairs. Antennæ with the apical joint ochreous. Thorax with the margin elevated, the anterior portion forming 3 deep foveæ, the centre one divided with a small deep impression near the middle; the posterior portion forming 2 large foveæ, the angles acute. Elytra scarlet, with 4 elevated lines on each, the spaces between forming a double row of reticulations, composed of curved hairs.

In the Author's and other Cabinets.

THE outline of the European species of *Lycus* is sublinear ; whilst that of tropical climates is dilated towards the apex of the elytra, and is sometimes nearly orbicular, occasioning the greatest disproportion between the trunk, and the elytra and wings ; they differ also in colour, the former being black and red, the latter of different shades of orange, blue and black.

I cannot refrain from noticing the great similitude there is in form and colour between some of the Brazilian *Cerambycidæ* and *Lycus* ; but whether there exists any absolute affinity I am not prepared to prove. It may, however, be stated that although several species of our genus are found in flowers, especially of umbellate plants, they also inhabit the decaying trunks of trees ; and in the structure of the antennæ they approach the *Prionidæ*.

Of this beautiful genus 2 species have been detected in Britain.

1. *L. minutus* Oliv.—*Curtis Brit. Ent. pl.* 263.

This insect is said to inhabit Oaks and Hedges, from June to September. I have seen one taken by Mr. Brightwell, the middle of Sept. 1810, in a grove about 3 miles from Linton in Cambridgeshire ; it was found entangled and dead in a spider's web : the specimen figured, I took on a Mountain Ash in August, in the neighbourhood of Tonbridge Wells.

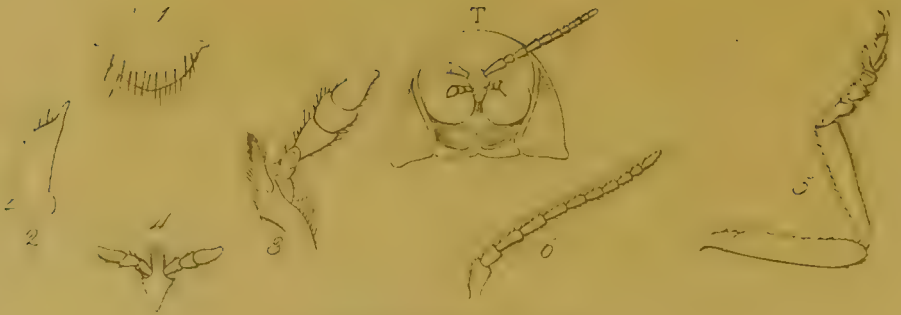
2. *L. festivus* Don. *Brit. Ins. v.* 16. *pl.* 544.

Antennæ pectinated, black. Thorax and elytra tawny-orange, excepting the disk of the former, and the apex of the latter.

Mr. Donovan obtained a specimen from the late Mr. Drury's Cabinet.

The plant is *Euphrasia officinalis* (Common Eye-bright).





LAMPYRIS NOCTILUCA.

The Glow-worm.

ORDER Coleoptera.

FAM. Lampyridæ.

Type of the Genus, Lampyris noctiluca Linn.

LAMPYRIS Linn., Fab., Lat., Curt.

Antennæ approximating, inserted in front of the head between the eyes, shorter than the thorax, pubescent, filiform, compressed, 11-jointed, basal joint the longest and stoutest, 2nd ovate-truncate, 3rd and 4th longer than the following, which gradually decrease in size, 10th the smallest, 11th longer, ovate-conic, the apex slightly emarginated on the side (6).

Labrum rather membranous at the base, semicircular, the basal angles produced, margin clothed with long stout bristles (1).

Mandibles small, sublinear, rounded and bristly externally towards the apex, which is acuminate (2).

Maxillæ terminating in a narrow, leathery, densely hairy lobe, somewhat pointed. *Palpi* comparatively large, stout, subfusiform, hairy and 4-jointed, basal joint the smallest, 2nd large obconic-truncate, the apex fleshy and white as well as the 3rd, which is more cup-shaped, 4th the longest and conical, the apex compressed (3).

Mentum very small, scutcheon-shaped, the anterior angles excised for the insertion of the *Palpi*, which are much smaller than the maxillary, sublinear, slightly pilose and composed of 3 indistinctly articulated joints, basal joint oblong, 2nd more cup-shaped, 3rd the longest, subovate. *Labium* narrow and hairy (4).

Head completely concealed under the thorax (T, the underside of both) and sunk in a cavity: eyes very large and globose in the male, and nearly meeting beneath. Thorax semi-ovate with a horny margin, the base truncated and sinuated, the angles slightly produced: scutellum subovate. Elytra scarcely broader than the thorax, but 4 times as long, depressed, somewhat coriaceous, linear, the apex rounded. Wings ample. Abdomen depressed. Legs short, nearly alike: thighs slender: tibiæ compressed, narrowed at the base: tarsi 5-jointed, basal joint oblong, 2nd and 3rd somewhat obtrigonal, 4th bilobed, 5th as long as the 1st; slender and clavate: claws simple and hooked (5 a fore leg). Female larger, apterous; 4 apical segments of abdomen phosphorescent beneath: eyes small.

Larvæ and Pupæ similar to the female.

NOCTILUCA Linn.—Curt. Guide, Gen. 315. 1.

Male fuscous, thickly and coarsely punctured and clothed with very short ochreous depressed hairs: thorax with a lurid ochreous margin, with two diaphanous lunate lines in front, the disc shining; elytra with 4 obscure elevated somewhat oblique lines on each: eyes black: legs fuscous-ochre, brightest at the base: abdomen with the 2 or 3 terminal segments ochreous beneath.

Female reddish-brown, no diaphanous lines on the thorax: 2 basal segments of abdomen with ochreous and orange angles, the 3 terminal ones edged with ochre above, broadest in the terminal one, entirely ochreous beneath.

In the Author's and other Cabinets.

OF all the minor works of Creation, none seems to make a stronger impression upon the youthful mind than the Glow-worm. In the warm and calm evenings of the early summer months, this insect emits a mild pale light, which seems like a terrestrial star shining from a bush or bank; sometimes it moves, and varies in its power. Our astonishment is great when we first behold this novel phænomenon; and if we search for the cause, it is increased on finding that it proceeds from a *crawling insect*; for the male, which alone has wings and is able to fly, gives but very little light.

The fire-flies of Italy, which exhibit a much more brilliant light than our glow-worm, belong to the same genus of beetles, and in warmer latitudes there are prodigious quantities and great varieties of this tribe; I believe, however, that it is admitted by travellers that the light of all is inferior to the splendid illumination of the fire-fly of the West Indies, the *Elater noctilucus*, which, through the kindness of my friend J. C. Lees, Esq., of New Providence, I have seen alive in this country.

It is presumed that the phosphoric light of the glow-worm is necessary to enable the males to discover their mates, since it is in the night alone that they are active; for in the day they lie concealed. Sometimes a large number of the males are attracted by the light of a candle; Mr. Dale informs me that he took forty in this way in one night, and that he has found the glow-worm from the end of June to the 14th of November: the larvæ and pupæ appear as early as the end of March or the beginning of April, and I believe they also emit light.

It will be remembered that the head of the glow-worm is perfectly concealed beneath the thorax, which forms a shield over it in both sexes, and that there are frequently in the males two semitransparent spots in front of the thorax, which are doubtless to admit of the light falling upon the eyes, which are very large in that sex, and exceedingly minutely reticulated.

For specimens of the Purple Mountain Milk-vetch, *Astragalus hypoglottis*, I am indebted to E. F. Witts, Esq., who gathered them near Slaughter in Gloucestershire.



See fig. 1 of article on June 1838

TELEPHORUS CYANEUS.

ORDER Coleoptera. FAM. Telephoridæ *Leach*.
Malacodermi *Lat*.

Type of the Genus Cantharis fusca Linn.

TELEPHORUS *Schaf., DeGeer, Oliv., Lat., Leach.*—*Cantharis Linn., Fab., Payk., Panz., Marsh., Gyll.*

Antennæ inserted before the eyes on each side the nasus, long, subsetaceous compressed, pubescent, more slender in the male than female; 11-jointed, basal joint the most robust, 2nd small, 3rd shorter than the 4th, which is nearly as long as the 1st, the remainder scarcely decreasing in size to the last which is fusiform conic (6).

Labrum fleshy, concealed beneath the nasus, somewhat turbinate, notched at the apex (1).

Mandibles transverse, long, slender, slightly bent and acute, dilated at the base and externally pilose (2).

Maxillæ terminated by a membranous, quadrate pubescent lobe, behind which, near the internal margin, is a smaller one. *Palpi* 4-jointed, pilose, basal joint small, 2nd twice as long, subclavate truncate, 3rd shorter ovate, 4th large securiform (3).

Mentum membranous quadrate. *Labium* transverse quadrate, pilose at the margin, divided in the middle, anterior angles truncated, from which arise the *Palpi*, composed of 2 joints, the basal one somewhat cup-shaped, 2nd securiform (4).

Males less robust than the females. Head vertical, suborbicular. Nasus horny, subtrigonal notched at the apex (1a). Eyes small remote. Thorax suborbicular. Scutellum obtrigonal. Elytra as long as the Abdomen which is soft. Wings ample. Legs rather long and stout. Tibiæ with 2 remote spines at the apex. Tarsi, anterior the shortest, all 5-jointed, submembranous, concave beneath, basal joint the longest, 3rd cordate, 4th bilobed, 5th clavate slender. Claws bent, dilated at the base. Pulvilli none (5, a fore leg).

Larvæ inhabit the earth, and are probably carnivorous.

CYANEUS *Nob.*—*abdominalis Panz.* 84. 5.

Black shining pubescent. Face, thorax and abdomen rufous ochre, basal joint of antennæ of the same colour tipped with black. Palpi and apex of mandibles piceous. Thorax very smooth, anterior margin piceous. Elytra blackish cyaneous, rugose, with 3 very obscure lines on each. Claws ochraceous.

In the Author's and other Cabinets.

THE antennæ of the Telephori are not only different in the sexes, but vary slightly in the same species, and sometimes

recede so far from the type as to have only ten joints: this, however, might be a casual imperfection rather than an exception. The labrum is a mere membranous appendage attached beneath the clypeus or nasus, which assumes the shape of an upper lip, and in a great measure, probably, supplies its place.

The Telephori are found during the months of May, June, and July, upon trees, plants, &c. especially amongst the blossoms of the White Thorn and Umbelliferæ, to which they resort,—not to feed upon the flowers, but upon the insects which congregate in multitudes in such situations. I have frequently seen them with insects in their mouths; and last year I observed *T. lividus* eating a small Ichneumon, and took another of the same species holding an *Empis* between its mandibles, which it had sucked or masticated till nothing of the body, excepting the skin, was left. *T. fuscus* will prey upon its own species.

The following are natives of Britain:

TELEPHORUS.

- | | |
|--|---|
| 1. <i>alpinus</i> Gyll. | 14. <i>dispar</i> Fab. Schæf. 16. 9.— <i>livida</i> Ill.— <i>rufipes</i> Herb. |
| 2. <i>cyaneus</i> Nob. | 15. <i>Cantianus</i> Leach? |
| 3. <i>rusticus</i> Gyll.— <i>fuscus</i> Oliv. 2. t. 1. f. 1. | 16. <i>pellucidus</i> Fab. Schæf. 16. 12. |
| 4. <i>fuscus</i> Linn.— <i>De G.</i> 4. t. 2. f. 5—15. —Schæf. 16. f. 10. | 17. <i>thoracicus</i> Gyll.—Oliv. ? 2. t. 1. f. 2. — <i>fulvicollis</i> Ill.— <i>bicolor</i> Herb. |
| 5. <i>obscurus</i> Linn. Syst. Nat.—Gyll.—Schæf. 16. 8. | 18. <i>ater</i> Linn. Oliv. 2. t. 1. f. 3. |
| 6. <i>discoideus</i> Kirby's M. SS. | 19. <i>flavilabris</i> Gyll. |
| 7. <i>analisis</i> Fab.? | 20. <i>Æthiops</i> Nob.—Upon grass, mountains, Ambleside. |
| 8. <i>nigricans</i> Fab. — <i>obscura</i> Linn. Faun. Suec.—Schæf. 16. 13. | 21. <i>fuscicornis</i> Ol. 2. t. 1. f. 4.— <i>flavicornis</i> Mar. — <i>melanocephala</i> Panz. 39. 12. |
| 9. <i>littoratus</i> Fall. — Gyll. — <i>assimilis</i> var. 6. Payk.—Schæf. ? 16. 14. | 22. <i>testaceus</i> Linn.—Panz. 57. 4. |
| 10. <i>clypeatus</i> Ill. ? Gyll.— <i>testacea</i> Scop. — <i>nivea</i> Panz. 57. 5. | 23. <i>pallidus</i> Fab. Panz. 85. 7.— <i>pallipes</i> Fab. Oliv. 2. pl. 1. f. 5. |
| 11. <i>rufus</i> Linn. ? Gyll.— <i>livida</i> Panz. 57. 3. | 24. <i>lateralis</i> Linn. |
| 12. <i>bicolor</i> Fab. — Panz. 39. 13. — Schæf. 16. 15. | 25. <i>marginatus</i> Fab. ? |
| 13. <i>lividus</i> Linn.—Oliv. 2. t. 2. f. 8. —Sam. pl. 3. f. 4.— <i>flavus</i> DeG. | 26. <i>longicornis</i> Fab. |
| | 27. <i>melanurus</i> Fab. Panz. 85. 6. |
| | 28. <i>ruficornis</i> Fab. Martin, t. 29. f. 11. Ahr. 11. 9. |

T. Æthiops resembles *C. tristis* of Panzer, but is much smaller; and the antennæ are only pale beneath at the base.

T. cyaneus is confined to the northern districts: it has been found in Yorkshire by Mr. Atkinson; and last June I took three specimens at Ambleside, near some oak-trees. Mr. Marshall about the same time captured several flying over the top of an oak in Cumberland. Our insect agrees perfectly with Panzer's figure of *C. abdominalis*, but it differs from the Fabrician species in the colour of the thorax; and its entirely black legs distinguish it from the *C. violacea* of Paykul and Gyllenhal.

The beautiful plant represented, *Primula farinosa* (Mountain Auricula) was in flower in abundance on the sides of the mountains near Ambleside at the same time.



Chrysomelidae. Liliaceae. Liliaceae. 1871.

MALACHIUS BISPINOSUS.

ORDER Coleoptera. FAM. Melyridæ *Leach*. Malacodermi *Lat*.

Type of the Genus *Cantharis bipustulatus Linn.*

MALACHIUS *Fab., Oliv., Lat., Panz., Gyll.*—Telephorus *DeG.*—Cantharis *Linn., Marsh.*

Antennæ inserted in a socket before the eyes in front of the head, subsetaceous, more robust in the males than females, varying much in the form of the joints, which are 11, the basal one the most robust in the males, the 4th in some females (fig. 6), the joints generally clavate truncate, but sometimes very much produced on the inside, terminal joint long ovate.

Labrum exserted, submembranous, somewhat crescent-shaped pilose (1).

Mandibles exserted, subtrigonal, semitransparent, acute, bifid at the apex, pilose on the outer margin (2).

Maxillæ bilobed, membranous and ciliated at their apex. *Palpi* 4-jointed, pilose, short and robust, basal joint very short truncated obliquely, 2nd and 3rd alike in form, terminal joint subconic, terminated by a vesicle (3).

Mentum small, somewhat semicircular, appearing emarginate in front. *Lip* large thick and coriaceous at the base, membranous and pubescent at the apex which is rounded. *Palpi* inserted on the sides of the lip midway; short pilose, biarticulate, 1st joint clavate, 2nd ovate elongate, terminated by a vesicle (4).

Head *transverse retractile*. Eyes *small, prominent*. Thorax *broader than the head, suborbicular, the margins flat, with papillæ under the anterior angles*. Elytra *soft, elongate ovate*. Scutellum *minute*. Wings 2. Abdomen *producing papillæ on each side at the base*. Legs *long, especially the last pair*. Tibiæ *simple, the hinder pair being slightly curved*. Tarsi *5-jointed, decreasing in length to the last joint which is as long as the basal one and dilated at the extremity*. Claws *simple, dilated at the base*. Pulvilli *large bilobed (5, a fore leg)*.

BISPINOSUS *Steph., Nob.*

Clothed with very short yellowish pubescence, the head and elytra towards their apex producing black bristles. Head and thorax shining green, sometimes inclining to blue; antennæ of a duller green, the underside of the basal joints, the mouth and surrounding parts as far as the eyes and the margins of the thorax orange. Scutellum and elytra dull, yellowish green, the latter with an orange coloured acuminate process at the apex next the suture and 3 obscure striæ on each. Legs yellowish green.

In the Cabinets of Mr. Stephens and the Author.

MALACHIUS (a name derived from the Greek, and alluding to the soft and delicate texture of the insect,) was first established as a genus by Fabricius. May and June are the months that produce these beetles, some of them appearing occasionally in abundance. *M. æneus* I have seen in great plenty flying in the sunshine in grass fields, and *M. bipustulatus* upon the flowers of umbellate plants, where they either fed upon the flowers or upon the insects which they attracted. They are nearly all of a fine green, inclining more or less to blue or yellow, spotted or marked with orange or scarlet: but the peculiarity most worthy of observation is the curious red inflated appendages like little bladders, on the sides of the thorax and abdomen, which may be for the purpose of enabling the insect to increase or decrease its gravity during flight.

The following are British species:

1. *M. æneus* Linn., Panz. 10. 2. Don. 3. 96. 2.
2. *bipustulatus* Linn., Panz. 10. 3. Don. 15. 528. 2. 2.
3. *viridis* Fab., Oliv. 2. tab. 3. f. 14.
4. *marginellus* Fab., Oliv. 2. tab. 3. f. 18.
5. *bispinosus* Nob.
6. *sanguinolentus* Fab., Oliv. 2. tab. 3. f. 13.
7. *ruficollis* Panz. 2. 10. not of Fab.
8. *rubricollis* Marsh., Gyll.—*ruficollis* Fab., Oliv. 2. tab. 2. f. 9.
9. *thoracicus* Fab., Oliv. 2. tab. 2. f. 10.
10. *fasciatus* Linn., Panz. 10. 5. Don. 15. 528. 1. 1.
11. *bituberculatus*.
12. *pulicarius* Fab., Oliv., Panz. 10. 4.
13. *apicalis*.
14. *humeralis*.

In consequence of the curious tubercles terminated by bristles which are produced at the apex of the elytra, the name of *bispinosus* has been given to our insect, two of which we took in Norfolk several years since; but as we can find no other distinctions between it and *M. marginellus*, excepting its smaller size and more robust antennæ, especially at their base, which are sexual characters, we suspect it is only the male of that species.

The plant is *Adonis autumnalis* (Pheasant's-eye).



TILLUS UNIFASCIATUS.

ORDER Coleoptera. FAM. Tillidæ *Leach*.—*Clerii Lat.*

Type of the Genus, Chrysomela elongata Linn.

TILLUS *Oliv., Fab., Marsh., Lat., Leach, Sam.*—*Clerus Fab., Oliv.*—*Chrysomela Linn.*

Antennæ inserted before the eyes, as long as the thorax, serrated; 11-jointed, 3 first joints slender, the basal one subclavate curved, 2nd minute ovate, 3rd obtrigonal, the remainder cup-shaped and produced on the inside, excepting the last which is the longest and subovate (6).

Labrum transverse-oval, pilose, ciliated at the anterior margin and slightly concave (1).

Mandibles bifid at the apex, ciliated on the inside near the base, one having a small tooth near the middle (2).

Maxillæ terminated by 2 large rounded coriaceous lobes, very pubescent at their margins. *Palpi* not long but robust, pilose and 4-jointed, basal joint small, 2nd subtrigonal, 3rd rhomboidal, 4th the longest, slightly attenuated to the apex which is sloped off very obliquely (3).

Mentum small transverse. *Lip* suborbicular, membranous, pilose. *Palpi* remote, large securiform, triarticulate, basal and 2nd joints pilose, the former truncated obliquely, the latter longer, 3rd very large hatchet-shaped (4).

Head subtrigonal. Eyes small. Thorax cylindric or subcordate. Scutellum triangular. Elytra completely covering the abdomen which is cylindric. Wings ample. Legs rather robust. Tibiæ simple. Tarsi 5-jointed, 2 first joints closely united, subcordiform, 3rd and 4th more bilobed, terminal one subclavate. Claws bifid with a tooth at the base (5 a fore leg).

Obs. the dissections and descriptions are taken from *T. unifasciatus*.

UNIFASCIATUS *Rossi.*—*Fab. Ent. Syst. v.1. p.207. n.8.*—*Marsh. 231.5.*

Clothed with rather long hairs. Black, shining. Head and thorax minutely but not thickly punctured. Elytra with several longitudinal rows of very large punctures which vanish beyond the middle, one third of the elytra at the base red, and a pale ochreous fascia across the middle, interrupted only by the suture.

In the Author's and other Cabinets.

TILLUS is closely allied in habit and œconomy to *Dasytes* on the one side, and to *Opilus* on the other.

The 3 following species are inhabitants of Britain; they are

nearly of the same stature, they breed in wood, and inhabit trees and flowers.

* The thorax nearly cylindric.

1. *T. elongatus* Linn.—Panz. 43. 16.—*ruficollis* Hüb.

Bluish black, with a red thorax.

Found in June upon Oaks in Hampshire, and I once met with it tolerably plentiful in sunflowers at Bungay in Suffolk.

2. *T. ambulans* Fab.—ater Panz. 8. 9.—*bimaculatus* Don.

Brit. Ins. v. 12. pl. 411. f. 2. var.

Entirely bluish black, and rather more slender than the former species.

Having once taken a pair of this insect in a garden in Suffolk, I consider it distinct, although Schönherr has included it as a variety of *T. elongatus*. The insect figured by Mr. Donovan is a singular and probably an immature variety, with a testaceous spot on each side of the elytra.

** Thorax somewhat obcordate.

3. *T. unifasciatus* Rossi.—Curt. *Brit. Ent. pl.* 267.

This pretty and rare insect has several times been captured at Windsor. I believe it inhabits Oaks in June; it has also been found on Oak posts, it is said, in Hertfordshire. For the specimen figured I am indebted to my friend Richard Latham, Esq.

Specimens of *Lathyrus Aphaca* (Yellow Lathyrus) were communicated by Professor Henslow and Mr. G. Charlwood.



OPILUS FASCIATUS.

ORDER Coleoptera.

FAM. Cleridæ *Lat., Leach.*

Type of the Genus, Attelabus mollis Linn.

OPILUS *Lat., Leach, Sam.*—Eupocus *Ill.*—Notoxus *Fab., Gyll.*—Clerus *Oliv., Marsh.*

Antennæ inserted before the eyes at the base of the nasus, curved, pilose, and clavate; 11-jointed, basal joint robust bent, 2nd small, 3 following long, the 6th 7th and 8th rather shorter, slightly clavate, the remainder forming a compressed club, 9th and 10th joints obtrigonal, 11th larger ovate and truncated obliquely (6). *Labrum* transverse, the angles rounded, the margin rather deeply notched and very pilose (1).

Mandibles thin, acute with a small tooth near the middle and a larger rounded one near the apex, external margin rounded and pilose; the internal margin membranous and pubescent towards the base (2).

Maxillæ terminated by a large lobe, with another on the inside, both densely ciliated. *Palpi* securiform, pilose, 4-jointed, basal joint short, 2nd long, gradually thickened to the apex, 3rd short, 4th hatchet-shaped, spongy or coriaceous at the terminal margin (3).

Mentum small quadrate. *Lip* large broad heart-shaped, thickly covered with hairs inclining to the middle. *Palpi* securiform, large, bent back, pubescent triarticulate, basal joint short, 2nd longer, somewhat obtrigonal, 3rd large obtrigonal, thick and spongy at the terminal margin (4).

Head *nutant*. Eyes *prominent and ovate*. Thorax *elongate-cylindric, slightly depressed, narrowed behind*. Scutellum *small ovate*. Elytra *elliptical, dilated towards the apex*. Wings *ample*. Legs *very hairy*. Tibiæ *slender simple*. Tarsi *5-jointed, basal joint minute, not visible above, 3 following producing large bilobed membranous appendages beneath, 5th clavate*. Claws *simple (5, a fore leg)*.

FASCIATUS *Wilkin's MSS.*

Black, shining and villose. *Antennæ* ferruginous, fuscous towards the extremity. Head minutely and thickly punctured except on the crown. Thorax coarsely and sparingly punctured but plain down the back. Scutellum minutely punctured. Elytra with several rows of very large punctures, closely approximating, but becoming fainter towards the apex; an interrupted fascia beyond the middle forming 2 pale ochreous, sublunular spots. Legs ferruginous, thighs black, except at the tips.

In the Cabinet of Mr. Vigors.

OPILUS is distinguished from Tillus by the more elongated and simple joints of the antennæ, the last being dilated; by the hatchet-shaped terminal joint of all the palpi, by the obscure basal joint of the tarsi, &c.

Two species only have been found in Britain, and one of them has never before been either described or figured.

1. *O. mollis* Linn.—Panz. 5. 5.—Don. 12. 411. 1.—Sam. pl. 12. f. 1.

Larger than the following species. Brown and villose; head and thorax thickly punctured, elytra with several coarsely punctured striæ, with a large ochreous, somewhat triangular spot at the base, an interrupted fascia in the middle, and the apex of the same colour. Antennæ and legs ochreous, inclining to ferruginous; the apex of the thighs brown.

The larvæ of this insect live in wood, especially in dry decayed willow trees, in which also the perfect beetles are sometimes found, as well as under the bark, from November to May, and in woods and hedges in June and July. Latreille says they are found likewise in houses, living upon the larvæ of other insects. *O. mollis* is not uncommon in the neighbourhood of London, particularly near Darent Wood.

2. *O. fasciatus* Willk.—Curtis Brit. Ent. pl. 270.

Two specimens of this rare insect were taken (I think in Kent) many years since by Mr. Shillingford, and the drawing was made soon after their capture.

The plant represented is *Bartsia Odontites* (Red Bartsia.)



1841

THANASIMUS FORMICARIUS.

ORDER Coleoptera. FAM. Cleridæ.

Type of the Genus, Attelabus formicarius Linn.

THANASIMUS Lat., Sam., Curt.—Clerus Fab., Mar., Gyl.—Attelabus Linn.

Antennæ inserted before the eyes on each side the head, as long as the thorax, clavate, pilose, 11-jointed, basal joint a little the longest and stouter than the 6 following, subreniform, 2nd very small, the 5 following decreasing in length and increasing in diameter, subovate, the remainder stouter and forming a sort of club of cup-shaped joints, the terminal one the largest and somewhat obcordate being obliquely acuminate (6).

Labrum transverse, ciliated with fine and a few strong bristles, deeply emarginate (1).

Mandibles rather narrow, tapering to the apex which forms a strong tooth, with a smaller one below it, internal margin fleshy, coriaceous and ciliated at the base, external margin rounded and pilose (2).

Maxillæ rather small furnished with 2 lobes densely ciliated at the apex, the internal one short, with a coriaceous margin, the external one longer, somewhat obovate. *Palpi* not extending beyond the external lobe, small and slender, 4-jointed and slightly pilose, basal joint minute, 2nd and 3rd a little larger subquadrate, 4th twice as long and somewhat conical (3).

Mentum subquadrate. *Lip* elongate, cordiform at the apex and ciliated. *Palpi* considerably longer and larger than the maxillary, attached to scapes at the base, triarticulate, basal joint small, 2nd longer, slender, clavate and slightly pilose, 3rd very long pubescent and oval, narrowed at the base and truncated very obliquely at the apex which is spongy (4).

Head ovate, as broad as the thorax. Eyes lateral, slightly prominent and reniform. Thorax not touching the elytra, somewhat cordiform or orbicular, broadest in front and truncated, having a deep transverse channel and a central one forming a Y, and a narrow band at the base. Scutellum minute. Elytra somewhat elliptical, broader than the thorax. Wings ample. Thighs stout, anterior incrassated. Tibiæ slightly curved, posterior the longest. Tarsi 5-jointed, basal joint the smallest, scarcely projecting in the 4 anterior feet, and in these the 4 first joints are subcordate or trigonate and furnished beneath with bilobed membranous appendages (5), in the hinder the 3rd and 4th joints only have appendages (5†), terminal joint slender. Claws slender and acute.

FORMICARIUS Linn. Faun. Suec. 185. 641. Curt. Guide, Gen. 323. 1.

In the Author's and other Cabinets.

THIS genus completes our illustration of the family called Cleridæ or Tillidæ, and the genera comprised in it may be thus characterized:—

	Plate.
Antennæ serrated	TILLUS . . . 267
Antennæ clavate :	
Palpi all hatchet-shaped	OPILUS . . . 270
Labial palpi only hatchet-shaped	CLERUS . . . 44
Maxillary palpi very small	THANASIMUS 398
Penultimate joint of tarsi the smallest .	CORYNETES . 351
Terminal joint of antennæ much the largest subrhomboidal	NECROBIA . . 350

Thanasimus follows Opilus in the ‘Guide,’ but it arranges more naturally I think after Clerus. The only species that has been discovered in Britain is

T. formicarius Linn.—Curt. Brit. Ent. pl. 398.

Rufous pilose and pubescent : antennæ piceous : head and thorax thickly punctured, the former and the anterior margin of the latter black : elytra black, and thickly clothed with depressed hairs, excepting the base which is rufous and deeply and coarsely punctured in striæ ; before the middle is a narrow waved dirty white fascia, and towards the apex a broader and more regular one : legs black, tips of tarsi ferruginous.

Gyllenhal mentions a small var. with rufous legs, the knees sometimes black, (which is the *C. femoralis* of Dejean’s Catalogue), another with the breast and legs black, and a third with the breast blackish, the tibiæ and tarsi reddish.

This is the insect that is said to destroy an Anobium we lately figured in Plate 387, that is very destructive to furniture, &c. It inhabits the trunks of trees and wood recently felled, especially the Scotch and spruce firs ; it runs very nimbly, and has been named *formicarius* from its resemblance in form and manners to an ant. The larva lives under the bark of decaying trees.

Mr. Dale informs me that he took a specimen on the trunk of a Scotch fir at Glanville’s Wootton, June 30th : it has been captured also by Mr. Sparsball at Wrabness, in Essex ; by Capt. Blomer at Teignmouth, Devon, in Sept. ; on the seashore, Dublin, by Mr. Bulwer ; at Tynemouth, by Mr. Wailes ; and on sandy banks, Coombe in June, by Mr. Samouelle : I once took a specimen in April upon a tree at Ditchingham in Norfolk, and Mr. Lyell showed me a specimen that I believe was captured at Kinnordy in Scotland.

The Plant is *Chenopodium murale* (Nettle-leaved Goosefoot).



CLERUS ALVEARIUS.

ORDER Coleoptera. FAM. Cleridæ *Lat., Leach.*

Type of the Genus Attelabus Apiarius Linn.

CLERUS *Geof., Fab., Lat.* Attelabus *Linn.*

Antennæ inserted between and close to the eyes near the clypeus, hairy, 11-jointed, first joint long, curved, second shorter than the third, the five following short, the three last forming an oblong triangular mass, rounded externally, acuminate internally at the extremity. (f. 6.)

Labrum exserted, transverse, ciliated, narrowed before and deeply emarginate. (1.)

Mandibles arched, acute, one having a tooth on the internal edge near the apex, the other having only an irregular edge, thickly covered with short regular hairs on the inside from the base, with long hairs externally. (2.)

Maxillæ long, the terminal lobe ciliated with long close hairs, inferior lobe with short hairs: *Palpi* 3-jointed, first joint clavate, third obconic truncated, nearly equal in length to the two first. (3.)

Mentum dilated towards the base, narrowed anteriorly: *Palpi* 3-jointed, first joint minute, second clavate, third large, securiform: *Lip* broad, rounded, pubescent. (4.)

Head nearly vertical. Eyes notched. Thorax obconic-cylindric. Scutellum minute. Wings 2. Hinder thighs of the males incrassated. Tarsi 5-jointed, first joint very short, nearly concealed by the tibiæ, terminal long. Claws simple (5 a fore leg.)

ALVEARIUS *Fab. Ent. Syst. v. 1. pars 1. p. 209. n. 15. Lat. Gen. Crus. and Ins. v. 1. p. 273.*

Purplish blue, hairy. Head and thorax greenish blue, deeply and closely punctured. Elytra closely punctured in indistinct lines, bright red inclining to orange, blueish purple round the scutellum which is of the same colour, 2 transverse fasciæ, a spot near the apex, and the suture blueish purple. Legs and antennæ purple inclining to black.

In the Cabinets of Mr. Sparshall and the Author.

At the time Mr. Marsham wrote his *Entomologia Britannica*, neither of the species that form the Genus *Clerus* were considered as British, although specimens were preserved in the old cabinets; Mr. Samouelle has also omitted the Genus in

his Useful Compendium ; Donovan, on the other hand, having received specimens of *Clerus Apiarius* from the North of England, has given a figure of it in his British Insects, vol. vii. p. 231. f. 1.

Several specimens of this beautiful Genus having been taken within the last few years, amongst which are a fine female of *C. Apiarius* captured at Dover, and transmitted to Mr. Stone, and two of *C. alvearius* sent to Mr. Sparshall from Manchester, one of which is figured in the plate, our right to record it as a British Genus can no longer be questioned. As a doubt existed in the mind of Fabricius, when he wrote his *Entomologia Systematica*, whether our insect was any thing more than a variety of *C. Apiarius*, I shall point out a few of the most obvious characters which distinguish them, although I fear it may be thought unnecessary, after Latreille and Panzer without hesitation had published them as distinct species. *C. Alvearius* is smaller (the figure in the plate is about one fourth larger than the insect), more hairy, and less shining than *C. Apiarius* : moreover the scutellum is surrounded by a purple spot, the suture is of the same colour, and the spot near the apex of the elytra is surrounded by red : these are characters sufficient to distinguish it from *C. Apiarius* : it is also well known upon the continent that the larvæ of that species inhabit bee-hives, whereas those of *C. Alvearius* (we are informed by Latreille) are attached to the nidus of *Osmia cornuta* (*Apis bicornis*, Kirby).

The larvæ, it is most probable, prey upon the young brood of the Bees ; and the perfect Beetle is found upon different flowers, at what time of the year is not ascertained.

I am indebted to Professor Henslow for specimens of *Athamanta Libanotis* (Mountain Spiguel), gathered at Hinton in Cambridgeshire.



C. (C.) C. (C.) C. (C.) C. (C.) C. (C.)

NECROBIA RUFICOLLIS.

ORDER Coleoptera. FAM. Cleridæ *Lat., Lea.**Type of the Genus, Dermestes ruficollis Fab.*NECROBIA *Lat., Oliv.*—Corynetes *Payk., Fab., Gyl.*—Clerus *Geof., DeG., Marsh.*—Dermestes *Linn., Fab.*

Antennæ inserted before the eyes on each side the clypeus, as long as the thorax, pubescent and pilose, 11-jointed, basal joint rather robust and bent at the base, 2nd small, subglobose, 3rd slender, longer than any of the following, 4 of which are somewhat ovate, 8th a little dilated, the remainder forming a compressed, distinctly articulated club, 9th and 10th joints cup-shaped, the latter the broadest, terminal joint very large, subrhomboidal (6).

Labrum pocket-shaped, forming 2 short rounded lobes, producing a few long hairs and ciliated at the margin (1).

Mandibles subtrigonal, rounded and pilose externally, acute at the apex, one having a narrow, the other a broad triangular tooth beneath the apex, internal margin fleshy and clothed with short pile below the middle (2).

Maxillæ short, forming 2 large lobes, rounded and densely clothed at their extremities with short pubescence, the outer one the largest. *Palpi* rather long and pilose, 4-jointed, basal joint small, 2nd and 3rd equal, large subovate, 4th considerably longer, fusiform, thin and truncated at the apex (3).

Mentum subquadrate. *Lip* broad slightly emarginate, rounded, densely pilose at the apex. *Palpi* remote, a little pilose, triarticulate, basal joint small, 2nd large, obovate truncated obliquely, 3rd twice as long, subfusiform, truncated and thin at the apex (4).

Head subtrigonal: eyes prominent and globose. Thorax broader, suborbicular, rather truncated before, with 2 small angles behind. Scutellum small and rounded. Elytra broader than the thorax, oval, truncated at the base. Wings long and ample. Legs rather short, alike: tibiæ slender and simple: tarsi all 4-jointed, dilated and membranous at the apex, excepting the terminal joint which is long and slender, basal joint the smallest. Claws slender and acute (5).

RUFICOLLIS *Fab. v. 1. p. 230. n. 18.*—*Curtis's Guide, Gen. 325. n. 2.*

Shining, pubescent, rufous: antennæ and eyes dull black: head and thorax coarsely punctured, the former green, the latter villose: elytra greenish blue, excepting at the base, minutely shagreened, each bearing 8 rows of punctures: abdomen piceous beneath.

In the Author's and other Cabinets.

IN economy this little group differs from the rest of the Cle-ridæ, all of them undergoing their metamorphoses in wood; but the Necrobiæ live on dead animals, dried skins and old bones; they walk slowly, but fly rather swiftly.

Three species are found in this country.

1. *N. rufipes* Fab.—*Oliv. v. 4. No. 76 bis, tab. 1. f. 2.*

Shining, pubescent, bright blue, head and thorax greenish, coarsely punctured, elytra rugose with punctures, having also 8 or 9 lines of punctures on each, the spaces between them pubescent: antennæ and legs bright ferruginous, the 6 terminal joints of the former black; trophi brown, palpi ferruginous; eyes black.

The geographical range of this insect is very extensive; it is found in the South of France and in Africa, even to the Cape of Good Hope: my specimens from Senegal, however, are larger than our English ones, and the punctured striæ on the elytra are more evident. It is rare in Britain, but has been found by Mr. J. E. Gray in November near Copenhagen Fields.

2. *N. ruficollis* Fab.—*Curt. Brit. Ent. pl. 350.—Oliv. tab. 1. f. 3.*

Also inhabits Africa, and even the East Indies. It is found here in May and the beginning of July.

3. *N. Quadra* Marsh. 323. 4.—*violaceus* Gyll. 3. 376.

Shining pubescent, bright cyaneous; head and thorax greenish, thickly punctured, the latter with a smooth shining line down the back: elytra finely punctured, with 8 or 9 rows of large and deep punctures on each: antennæ and legs dull black, coxæ piceous, underside of tarsi ochreous.

This insect is at once distinguished from *Corynetes violaceus*, with which it is so often confounded, by the greater size of the terminal joint of the antennæ, and by its 4-jointed tarsi. It is also broader in proportion to its length, of a deeper blue; the thorax is more regularly, and the elytra are more deeply punctured; the latter are also more pubescent, and have only a very slight transverse impression below the base.

I have found this beetle in Norfolk in April and May, always amongst old bones.

The plant is *Silene anglica* (English Catchfly), communicated from the neighbourhood of Heron Court by the Hon. C. A. Harris.



CORYNETES VIOLACEUS.

ORDER Coleoptera. FAM. Cleridæ *Lat., Lea.**Type of the Genus, Dermestes violaceus Linn.*CORYNETES *Fab. Syst. Eleut.*—*Necrobia Oliv., Lat.*—*Dermestes Linn., Fab.*

Antennæ inserted before the eyes at the base of the mandibles, as long as the thorax, clavate, curved, pubescent and pilose; 11-jointed, basal joint long and robust, 7 following short and slender, the 2nd being a little longer and stouter, the 8th is ob-ovate, the remainder forming an elongated, distinctly articulated club, 9th joint semioval, 10th cup-shaped, 11th scarcely so large, transverse-ovate, pointed internally at the apex (6).

Labrum bilobed and ciliated, producing also a few long hairs (1). *Mandibles* subtrigonal, curved and pilose externally, hooked and acute at the apex, with a strong tooth beneath, internal margin membranous and slightly pubescent below the middle (2).

Maxillæ small, terminated by 2 rounded lobes, very pubescent at the apex, the outer one oboval and the largest. *Palpi* long stout and pilose, 4-jointed, basal joint small, 2nd long and robust attenuated to the base, 3rd stout obtrigonal, 4th very long and large, narrowed at the base, thin and rounded obliquely at the apex (3).

Mentum oblong. *Lip* obtrigonal, truncated at the base, angles rounded, anterior margin indented, sides hairy. *Palpi* nearly as long as the maxillary and reflexed, pilose, triarticulate, basal joint small, 2nd long robust, truncated at the apex, tapering at the base, 3rd very large, narrowest at the base, subconic, being truncated obliquely (4).

Head transverse, subtrigonal. *Eyes* small and prominent. *Thorax* suborbicular, the posterior angles acute. *Scutellum* small and rounded. *Elytra* rather broader than the thorax, oval, truncated at the base, with a deep transverse impression below the scutellum. *Wings* ample. *Legs*, anterior pair rather the shortest. *Thighs* a little stout. *Tibiæ* simple, rather slender with a fine spine at the apex. *Tarsi* 5-jointed, anterior the shortest, 3rd joint short and bilobed, 4th small, 5th long clavate (5); posterior with the 3rd joint longer than the 1st (5+). *Claws* notched at the base.

VIOLACEUS *Linn. F. S. n. 422.*—*Fab.*—*Lat.*—*Panz. 5. 6.*—*Oliv. 4. No. 76 bis, pl. 1. f. 1.*—*Curtis's Guide, Gen. 326.*

Very glossy, pubescent, pale cyaneous: mouth piceous: head and thorax rather sparingly and coarsely punctured: elytra but slightly pubescent, especially on the back, 10 rather irregular lines of punctures on each, with a few very minute ones between them: antennæ black; legs greenish with ochreous pubescence, underside of the tarsi ferruginous.

In the Author's and other Cabinets.

It is now nearly thirty years since the differences between this insect and *Necrobia Quadra* were pointed out by Mr. Marsham in his "Entomologia Britannica," yet those continental writers who have referred to his work have confounded the two species. With a hope of preventing any further confusion, the two genera are now described. That Paykull's and Gyllenhal's genus *Corynetes* is synonymous with *Necrobia* there can be no doubt, for they describe the palpi as filiform, the mandibles bidentate, the terminal joint of the antennæ as the largest, and the tarsi all 4-jointed. Olivier, on the contrary, has evidently figured our *Corynetes*, for his dissections and the description of them agree very well with ours, and consequently differ very materially from those of *Necrobia*. Fabricius has given the former name to both our genera, but in his generic characters he has described our *Corynetes*.

The form of the antennæ and tarsi is quite sufficient to distinguish the genera, and to justify their separation: the economy of the insects is also very different; for it is well known that our *Necrobia* live in decayed animal substances, but the larvæ of *Corynetes*, like the typical *Cleridæ*, appear to inhabit wood, and the perfect insects are found, sometimes in abundance, in houses and in flowers, in the month of May.

The following valuable observations relating to our insect, together with the specimens, were transmitted to me by Major General Hardwicke. "When at Wisbeach in October last, my attention was drawn to the depredations going on in the plank of a deal box, in which I found the larvæ of a small coleopterous insect (*Corynetes violaceus*) imbedded in dust, which their little jaws had produced, between the upper and lower surfaces of the plank. I found also in the same dust the cocoon of the pupa of some of the larvæ, of a soft silky leathery texture, not unlike what are formed by the clothes-eating moths, when the larvæ assume the pupa state. In this cocoon there appeared to be three cells, two of them unoccupied, the third closed and full; I therefore inclosed the cocoon with the bit of plank in a box, to secure the insect when it might become an imago, which occurred about six days after."

The plant is *Campanula patula* (Field Bell-flower).



CIS BIDENTATUS.

ORDER Coleoptera. FAM. Cisdæ or Bostricidæ.

*Type of the Genus, Anobium Boleti Fab.*CIS *Lat., Gyl., Sam., Curt.*—*Anobium Fab., Oliv., Panz.*—*Ptinus Mars.*

Antennæ inserted before the eyes under the margin of the clypeus, twice as long as the head, clavate, pilose, 10-jointed, basal joint robust, somewhat ovate, 2nd ovate also and rather stouter than the 5 following which are slender, 3rd joint longer than the 4 following, which decrease in length, the 7th being cup-shaped, the remainder forming a triarticulate pubescent club, distinctly articulated, the 8th and 9th joints cup-shaped, the 10th ovate, acuminate at the apex (6).

Labrum subovate, narrowed at the base, the sides thin, slightly emarginate and producing a few short hairs (1).

Mandibles curved, stout, bifid at the apex (2).

Maxillæ small, producing a bundle of broad bristles at the apex and another on the inside. *Palpi* stout, longer than the maxilla, slightly hairy, 4-jointed, basal joint short curved and slender, 2nd stouter, obovate, truncated obliquely, 3rd cup-shaped, 4th very large, ovate-conic (3).

Mentum subovate-truncate. *Lip* larger, the anterior angles truncated obliquely from whence arise the *Palpi*, which are short, very robust and triarticulate, the basal joint transverse, 2nd subglobose, 3rd small mamillate (4).

Head short and semicircular. Eyes small lateral and globose. Thorax large, convex, projecting over the head, the lateral margin convex and marginated. Scutellum minute. Elytra convex elliptical. Wings ample. Legs compressed. Thighs broad. Tibiæ, anterior with the external angle acuminate. Tarsi 4-jointed, 3 first joints minute, the basal one nearly concealed by the posterior tibiæ, apical joint large, and longer than the others united. Claws curved and acute (5).

BIDENTATUS *Oliv. 2. No. 16. pl. 2. f. 5. mas.*—*inermis Marsh. fem.*—*Curt. Guide, Gen. 328. 12.*

Male smooth, shining. Piceous or dull castaneous, sprinkled with very short yellow hairs. Head concave, with a fovea in the centre, the clypeus bidentate: eyes black: antennæ ferruginous. Thorax thickly punctured, very convex, the anterior margin forming 2 robust conical protuberances. Elytra irregularly and less thickly punctured (7 front view of head and thorax).

Female with the clypeus reflexed but simple, as well as the anterior portion of the thorax.

Obs. In some males the clypeus is only emarginated, and the tubercles on the thorax are less developed than in the specimen represented.

In the Author's and other Cabinets.

ON referring to the Guide, it will be found that I have proposed to make the Cleridæ pass on to the Cisidæ, and this is beautifully accomplished by means of the European genus *PSOA*, which has the habit of the Cleridæ, but the characters of the Bostricidæ. I cannot, however, but acknowledge that it is with regret that I ever infringe on the tarsal system; since the more I see of exotic forms, the more I am convinced that it will be impossible to study the Coleoptera generally without its assistance: in the present instance, however, it must be remembered that the Cleridæ are inconstant in the numerical structure of the tarsi, as in *Necrobia*, pl. 350.

Cis and *Anobium* (pl. 387.) have been repeatedly united or confounded, but they are readily distinguished by the number of joints in the antennæ and tarsi, the latter genus being pentamerous and having 11-jointed antennæ.

The following species of our genus are British, and all inhabit *Boleti*.

1. *C. Boleti* *Fab.*—*Boletorum* *Marsh.* 85. 13.

A very common insect, found from February to August in the *Boletus versicolor* and under the bark of trees.

2. *C. concinnus* *Mar.* 87. 19.—Norfolk in June.

3. *C. micans* *Fab.*—*villosulus* *Mar.* 86. 14.—Middle of April under bark of Willows near Southend.

4. *C. hispidus* *Payk.*—*micans* *Panz.* 10. 8.

5. *C. pyrrhocephalus* *Mar.* 86. 15.

6. *C. pygmæus* *Mar.* 86. 16.—*festivum* *Panz.* 6. 7.?

7. *C. rhododactylus* *Mar.* 87. 22.—In *Boletus versicolor*.

8. *C. nigricornis* *Mar.* 87. 21. ditto.

9. *C. ruficornis* *Mar.* 87. 20.—*perforatus* *Gyl.*?

10. *C. nitidus* *Fab.*—*Panz.* 10. 9.—June, New Forest, J. C. Dale, Esq.

11. *C. fronticornis* *Panz.* 98. 7.

12. *C. bidentatus* *Oliv.*—*Curt. Brit. Ent. pl.* 402. June, Suffolk. New Forest and Hurn, in *Boletus auricularius* and on White Thorns. Gyllenhal has referred Olivier's figure to *C. Boleti*, and Mr. Stephens has done the same; but on looking at the plate, there is little doubt about its being our insect, and on consulting his description it is evident he intended no other than the *C. bidentatus*.

The Plant is *Chenopodium acutifolium* (Sharp Entire-leaved Goosefoot).



*From type of *Centistes* London Jan 1827*

CICONES CARPINI.

ORDER Coleoptera. FAM. Cisidæ *Leach.*—Bostrichini *Lat.*

Type of the Genus Cicones Carpini Nob.

CICONES *Nob.*

Antennæ inserted close to the anterior margin of the eyes, slightly pilose, capitate, 10-jointed, 1st and 2nd joints robust, subglobose, the 7 following more slender, gradually increasing in diameter, the 10th joint orbicular, very large and pubescent (fig. 6).

Labrum semicircular, thickened and ciliated at the anterior margin (1).

Mandibles small, acute, membranous on the internal margin (2).

Maxillæ small bilobed, very pubescent at the apex. *Palpi* slightly pubescent, 4-jointed, basal joint small, 2nd and 3rd robust, subquadrate, 4th large ovate (3).

Mentum large, trigonate truncate. *Labium* quadrate ciliated.

Palpi attached to the sides of the labium, 3-jointed; basal joint minute, 2nd small, 3rd ovate (4).

Head sunk up to the eyes which are small. Thorax gibbous subquadrate, margined, not closely attached to the abdomen. Scutellum triangular. Elytra ovate. Wings ample. Thighs rather long. Tibiæ simple. Tarsi all 4-jointed, 3 first joints short, 4th longer than the others united, clavate. Claws simple (5, a fore leg).

CARPINI *Nob.*

Castaneous black, sparingly covered with stiff short yellow bristles. Head minutely and thickly punctured. Thorax with 2 obtuse elevations near the middle, behind, rugosely punctured. Elytra very convex with 3 elevated longitudinal lines, and 9 punctured striæ on each, more castaneous than the thorax, having an oblique spot near the anterior angle, 3 near the middle, a transverse lunulated mark and another near the apex dull orange. *Antennæ* ochraceous. Legs pilose ferruginous.

In the Cabinets of Mr. Beck and Mr. Bainbridge.

WE have been compelled to establish this little insect as a genus, from its not associating with any group that we are acquainted with. Its natural situation is probably between *Cis* and *Cerylon*; and were it not for Fabricius's words "Antennæ perfoliatæ," we should consider that his *Dermestes scaber* would form a second species.

Cicones Carpini is so like in size and colour to *Bolitophagus pictus* of Sturm's *Deutschlands Fauna*, that at first sight we concluded it was nearly allied to it: a slight examination, however, proved that ours was a Tetramerous insect, and that it belonged to the *Bostrichini* of Latreille, as will be seen by referring to the legs and antennæ in the annexed plate.

A single specimen of this insect (which we cannot find any where described) was taken from under the bark of a Hornbeam tree (*Carpinus Betulus*) on Epping Forest in March 1826, by Mr. T. Beck, and another about the same time by Mr. Bainbridge, who liberally allowed it to be dissected to supply the magnified figures in the plate.

The plant is *Arenaria trinervis* (Plantain-leaved Sandwort).



Ant. by 2. Ant. by 1. Ant. by 1.

NEMOSOMA ELONGATUM.

ORDER Coleoptera. FAM. Bostricidæ *Lat.*

Type of the Genus, Dermestes elongatus Linn.

NEMOSOMA *Lat., Gyl., Lea.*—Colydium *Hel., Herb.*—Ips *Ol.*—Dermestes *Linn.*

Antennæ inserted before the eyes near the base of the mandibles, not longer than the head, clavate, slightly pilose, 10-jointed, basal joint longer and more robust than the 6 following, 2nd joint globose, the 5 following slender, gradually increasing in diameter, the remainder very large, the 8th and 9th cup-shaped, but rather eccentric, 10th subovate-globose (6).

Labrum pocket-shaped, being emarginated before and ciliated with long bristles (1).

Mandibles porrected, elongate-trigonal, strongly denticulated on the internal side towards the apex (2).

Maxillæ terminated by a long lobe densely ciliated. *Palpi* short, nearly equal, 4-jointed, 3 first joints short, the 2nd and 3rd subquadrate, 4th long subfusiform truncate (3).

Mentum closely united to the head, anterior margin sinuated.

Labium small subquadrate, emarginate and very pilose before.

Palpi inserted towards the middle of the lip, triarticulate, 1st and 2nd joints subglobose, 3rd long, externally convex and truncated (4).

Head long subovate. Eyes small, lateral. Thorax subcylindrical, as long as, and not broader than the head. Scutellum very minute. Elytra rather longer than the head and thorax, elliptical, cylindrical and rounded at the apex. Wings very ample. Legs alike, very short, posterior rather remote. Thighs thick. Tibiæ with short spines at the apex. Tarsi all 4-jointed, basal joint a little longer than the 2nd and 3rd; the 4th as long as the others united, clavate. Claws bent and acute (5).

ELONGATUM *Linn. Faun. Suec. p.141. n.409.*—*Curtis's Guide, Gen.249.*

Black shining. Antennæ and legs pale ferruginous. Head and thorax covered with oval punctures, the former having a channel down the front, deepest towards the clypeus. Elytra ferruginous-ochre from the base nearly to the middle, and a large spot of the same color near the apex; they are indistinctly punctured, forming irregular and faint striæ; at the apex near to the suture is a deep channel on each side extending round the apex and forming a thickened margin.

In the Author's and other Cabinets.

I RECEIVED a pair of this pretty and remarkable insect, which has never been figured or described by any English writer, with the following observations from Mr. Ingpen; and I am indebted to Mr. Ingall for a series of specimens for my cabinet and dissection.

“ Mr. T. Ingall having discovered the habitat of this very rare insect about the middle of April 1830, near Sydenham, Kent, most liberally showed me its locality. In the first week of May we found it inhabiting the bark of old elm-rails, in which it makes labyrinth-like passages with outlet holes. The insect seemed attached to the hardest bark, and to that which was the most difficult to separate from the wood. It is remarkable that they almost entirely confine themselves to the under-side of the rails; and the upright elm-posts, although the bark was very much eaten, produced scarcely a specimen.”

Mr. Davis informs me that Dr. Howitt found a specimen, near Nottingham I think, which was beaten from off a hawthorn hedge, and another is said to have been taken at Darent in June. In Sweden it is found also under the bark of dead trees, especially of the *Pinus sylvestris* (the Scotch Fir).

Nemosoma is placed by Latreille between Cis and Cerylon, and there can be no doubt that it belongs to the Bostricidæ; but never having had an opportunity of examining this rare insect until now, I have arranged it in my Guide between Bitoma and Rhyzophagus; but its natural situation will be near to Cis and Apate (Genera 328 and 330 of the Guide).

The plant is *Rubia peregrina* (Wild Madder).



APATE CAPUCINUS.

ORDER Coleoptera. FAM. Bostricidæ *Lat., Leach.*

Type of the Genus, Dermestes Capucina Linn.

APATE *Fab., Payk., Dej.*—Bostrichus *Lat., Oliv.*—Dermestes *Linn.*

Antennæ inserted close to the anterior margin of the eyes, clavate 10-jointed, basal joint longer and more robust than the 6 following which are slender, 2nd joint somewhat cup-shaped, 3rd 4th and 5th obovate, 6th and 7th more cup-shaped, the remainder very large, the 8th and 9th somewhat obtrigonal, the 10th oval-truncate (6).

Labrum transverse-oval, densely clothed with long hairs (1).

Mandibles thick and trigonal, slightly acuminate but obtuse at the apex (2).

Maxillæ short, terminated by a large ovate lobe, very pilose at the apex, and an equally large and similar lobe on the inside.

Palpi rather large, robust and very pilose, 4-jointed, basal joint short, 2nd the longest, 3rd somewhat hatchet-shaped, 4th sub-conic (3).

Mentum subtrigonal, the posterior angles raised and producing long hairs. *Lip* large, heart-shaped, with a lobe in the centre.

Palpi robust, very pilose, triarticulate, basal joint subglobose, 2nd ovate-truncate, 3rd ovate (4).

Head nutant received into the thorax level with the Eyes, which are small globose and remote. Thorax globose, truncated obliquely before. Scutellum minute. Elytra very convex and elliptical, slightly dilated and rounded at the apex. Wings ample. Legs slender. Tibiæ simple with small spurs at the apex. Tarsi 4-jointed, basal joint rather the longest, knotted near the base (being apparently an attempt to produce another joint), 3rd joint the smallest, 4th rather long. Claws dilated at the base (5, a fore leg).

CAPUCINUS *Linn. Faun. Suec. p. 142. n. 416.*

Black shining. Elytra and abdomen rufous. Palpi tipped with red. Head pubescent and thickly punctured. Thorax pubescent, except on the top, granulated and tuberculated, globose, sloped off in front, with a transverse ridge. Elytra semicylindric, thickly and deeply punctured, having 3 obscurely elevated lines on each. Underside and legs pubescent, apex of the tarsi and claws castaneous.

In the Cabinets of Mr. Haworth, Mr. Sparshall, and Mr. Stone.

APATE being distinguished from Bostrichus by the somewhat perfoliated mass of the antennæ, it appears to be necessary to separate them; and the same portion being lamellated and pectinated in *A. muricata*, I am very doubtful to which genus it belongs, and am unable to decide at present for want of specimens.

In the larva state these insects live in dead trees, upon the trunks of which the beetles are generally found.

A. Capucinus Linn.—*Curtis Brit. Ent. pl.* 271.

The beautiful specimen figured was taken by a boy near Cromer, on the coast of Norfolk, and given to Mr. Earle, a gentleman residing there, by whom it was presented to Mr. Joseph Sparshall. Mr. Haworth has a specimen taken near London, and Mr. Stone has another from Matlock in Derbyshire.

A. muricata Linn.—*Panz.* 35. 17.—*terebrans* Oliv.

It is recorded by Mr. Ingpen that this insect has been found under bark in Epping Forest in the month of June, and it has been admitted into Panzer's "*Faunæ Insectorum Germanicæ*." Linnaeus gives it as an inhabitant of Guinea, Fabricius of South America, and DeJean of Brazil; it is evidently therefore a species (like *Blatta orientalis*, and a great number of others) that has been introduced by our commercial intercourse with foreign countries.

The plant is *Geum urbanum* (Common Avens).



Geranium macranthum L.

PLATYPUS CYLINDRUS.

ORDER Coleoptera. FAM. Bostricini *Lat.* Bostricidæ *Leach.*

Type of the Genus Platypus cylindrus Herbst.

PLATYPUS *Herbst, Lat.* Bostrichus *Fab.* Scolytus *Oliv., Panz.*

Antennæ inserted close to the base of the clypeus, not longer than the head, 6-jointed, 1st joint elongate, curved; 2nd short, thick; 3rd and 2 following transverse, club large solid oval very much compressed punctured, annulations none or obsolete. (f. 6.)

Labrum none?

Mandibles exerted trigonate very strong acute (2.)

Maxillæ broad at the base, attenuated upwards, somewhat acute at the apex, which produces strong bristles as well as the internal edge: *Palpi* short robust 3-jointed conic, terminal joint short. (3.)

Mentum very small oblong, narrowed at the base (4. a.), where it appears to be attached to the surface, not the edge, of the covering of the underside of the head (b.): *Palpi* very short 3-jointed, the terminal joint being the longest (c.)

Head globose very obtuse before, appearing vertical. Eyes ovate.

Thorax long cylindric, excavated on the sides to receive the anterior femora. Body cylindric linear. Elytra truncated at the apex and very hairy, with a small tooth on the 3rd stria, and an obtuse spine on each side near the external margin behind. Legs long, anterior the longest curved inward, posterior placed very far behind; anterior coxæ very large. Thighs robust. Tibiæ short compressed tuberculated, anterior deeply striated transversely on the outside, terminated by a strong spine. Tarsi slender, entire, longer than the femora and tibia united, 5-jointed, 1st joint very long, 4th very minute. Claws slender (5. a fore leg).

CYLINDRUS *Herbst Coleop.* 5. tab. 49. f. 3. *Fab. Ent. Syst.* t. 1. pars 2. p. 364. n. 2. *Cylindricus Oliv. Ent.* t. 4. n. 78. pl. 1. fig. 2. a. b. *Lat. Gen. Crust. &c.* t. 2. p. 277.

Shining reddish-brown: head, thorax and elytra towards the apex inclining to black. Legs castaneous. Antennæ ferruginous. Head punctured, flat and finely rugulose in front. Thorax slightly punctured, back smooth, with an impressed line in the centre behind, posterior margin produced in the centre. Elytra punctured, with 8 deep striæ, forming as many alternate elevated ribs. Anterior thighs towards the base angulated on the internal margin.

In the Author's and other Cabinets.

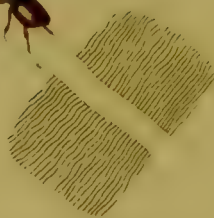
THIS curious insect, so different in appearance to any of its congeners, belongs to the same family as *Scolytus destructor*

(Plate 43). I have adopted Herbst's name *cylindrus* after Dejean, who has applied the name *cylindricus* to a North American species.—Before I proceed further I shall notice its peculiarities. Most insects that live under bark, either have moderately long or very short legs; but in our insect the tarsi, which are 5-jointed, are remarkable for their length, being twice as long as the whole remainder of the leg; the coxæ of the anterior pair are very powerful, and this pair has a singular appearance, being bowed outward so as to form nearly a circle when viewed in front; the transverse furrows upon the tibiæ of this pair are very peculiar characters, and must materially assist the insect in its course through its narrow labyrinths beneath the bark.

It is to the assiduity of Mr. D. Bydder that we are enabled to record it in our British Fauna: the specimens in my own as well as all other cabinets, are from the large stock which he once took in the New Forest under the bark of felled oak and beech trees in the month of May. Although it must be upwards of twelve years since that capture was made, and the insect has been sought for since, I have never heard of a single other specimen having been taken. This, however, is only additional evidence to a well known fact, that myriads of Xylophagous insects may be found in one tree, whilst others close to the spot will be untouched, or affected in so slight a degree as to prevent discovery. There is nothing perhaps in nature more wonderful than the sudden appearance and disappearance of these minor works of the Creator, which are at His command called forth to answer ends that our limited understandings cannot comprehend, and which being accomplished, are, by a combination of circumstances no less wonderful, swept away from us altogether for a season.

All the trees of this country occasionally suffer, and some of them materially, from the attacks of insects. As it therefore becomes of great importance that we should be acquainted with them; I shall, whenever I arrive at the illustration of such genera, point out their peculiar habits. I regret that in the present instance I can find no account, in any of the works with which I am acquainted, of the economy of our insect; and if it were known, we no doubt should have been fully informed upon the subject in the invaluable works of the learned Latreille.

Geranium pratense (Meadow Crane's Bill) is figured in the plate.



Staph. picea L.

SCOLYTUS DESTRUCTOR.

ORDER Coleoptera. FAM. Bostricidæ, *Lat., Leach.*

Type of the Genus Bostrichus Scolytus Fab.

SCOLYTUS *Geoff., Lat., Oliv., Leach.* Bostrichus *Fab.* Hylesinus *Fab., MacLeay.* Ips *Marsh.*

Antennæ inserted close to the interior margin of the eyes, shorter than the head, clavate, basal joint large, second short, third small, five following transverse, the club (formed from the ninth joint) compressed, obovoid, composed of three closely united plates. (f. 6.)

Labrum none. ?

Mandibles arched, concave beneath, triangular, somewhat acute, hairy at the base. (2.)

Maxillæ membranaceous, ciliated internally with strong short bristles, very hairy externally : *Palpi* not longer than the mandibles, 4-jointed, first joint very short, second and third quadrate, terminal joint slender. (3.)

Mentum long, dilated anteriorly : *Palpi* much longer than the maxillary, pilose, first and second joints very robust, terminal, somewhat ovate, oblong : *Lip* very small. (4.)

Head somewhat globose. Body cylindric, obliquely and abruptly truncated at the apex. Wings 2 very long. Legs short, robust. Tibiæ compressed, anterior terminated by a curved spine. Tarsi 4-jointed, third joint bifid, fourth long, with two simple claws (5 a fore leg).

DESTRUCTOR *Oliv. Ent. t. 4. n. 78. pl. 1. f. 4. a. b. c.* Scolytus *Fab.*

Ent. Syst. t. 1. pars 2. p. 366. n. 9. Marsh. *Ent. Brit. p. 53. n. 6.*

Black, shining, head thickly covered above with short yellowish hairs. Thorax finely punctured. Elytra chesnut, frequently with a large dark spot extending across the centre, each having seven striæ with punctures, and seven alternating lines of more minute punctures. Wings fuscous. Abdomen very hairy. Legs and antennæ rufous.

In the Author's and other Cabinets.

THE subject of the present article having created considerable interest from the devastation it has made in St. James's and Hyde Parks, and the public attention having been excited by a valuable and learned report*, drawn up, at the request of Lord Sidney the Ranger, for the Treasury, by W. S. MacLeay, Esq., I have been induced to describe and figure this formidable little insect, hoping to assist in the laudable object of my friend, by enabling those who suffer from its depreda-

* Vide *Edinburgh Philosophical Journal*, No. XXI. July 1824. p. 123.

tions to apply a remedy, which would be impossible without being acquainted with its figure and habits.

The perfect insects I have frequently met with, in dry weather during the spring, even in the streets of London; and Mr. MacLeay informs me that in warm days he has seen them flying about the trees in the Birdcage Walk in great abundance: from March to September the female may be found upon the trunks of elm-trees, making her way through the bark; after which she proceeds between the bark and the wood, forming a passage and depositing her eggs on each side in her course until she is exhausted, when she dies, and may generally be found at the extremity of the channel: when the eggs, which are deposited very close to each other, hatch (as Mr. MacLeay informs us) the larvæ begin to feed, working nearly at right angles from the path of the parent, proceeding almost parallel to each other, as represented in the engraving. The larvæ are to be found alive in January, I am informed by a lady who has reared them: it is therefore probable they are working during the whole of the winter, when, the sap of the tree being down, the bark adheres less firmly, the grub works with greater facility, and the mischief is consequently augmented.

Our insect inhabits the elms of France and Germany as well as England, especially in the neighbourhood of Paris and London, where they most abound, owing probably to the absence of birds and reptiles in such situations. From recent observations the mischief has spread to Kensington Gardens, the Regent's Park and Hampstead, which is not to be wondered at when we consider the multitudes annually produced, and the facility with which the insect flies.

"The devastation (says Mr. MacLeay) committed by these animals is at times so great, that it is clearly worth while to make experiments to obviate it; although it is difficult to conceive how such experiments can ever be made philosophically by persons who do not in the first instance make themselves acquainted with the natural history of that particular species of destructive insect which may have occasioned the mischief." I cannot do better probably than join him in recommending "that trees should be inspected twice a year, in summer when the perfect insect is on the wing, and afterwards in winter when infected trees ought to be cut down and burned, or subjected to such heat or fumigation as may destroy the larvæ, or to cover them over with a mixture of tar and train oil in March to a certain height from the ground all such trees as it may be thought proper to save:" for young trees, or a partial affection, corrosive sublimate and turpentine applied to the parts during dry weather in March would most probably effectually put a stop to the mischief; but the expense would not allow of its general application.

A sprig of *Ulmus campestris*? (the common Elm) is figured.





HYLESINUS SCABER.

ORDER Coleoptera.

FAM. Bostricidæ.

*Type of the Genus, Hylesinus crenatus, Fab.*HYLESINUS *Fab., Lat., Gyll., Curt.*—Bostrichus *Panz.*—Scolytus *Oliv.*—Ips *Marsh.*

Antennæ inserted near to the anterior margin of the eye, not longer than the head, capitate, pilose and 11-jointed, basal joint long, clavate and hooked at the base, 2nd stout and subovate, 3rd slenderer, obtrapezate, 5 following a little broader, short and transverse, the remainder forming a pubescent ovate-conic club, slightly compressed, 9th joint a little longer than the 10th, the apical one considerably longer and conical, with a transverse suture (6).

Labrum undiscovered.

Mandibles porrected, trigonate, inside concave, with 3 slight notches on the inner margin (2).

Maxillæ furnished with a large ovate lobe, armed on the inside with long lanceolate spines and bristles, and very bristly outside.

Palpi extending beyond the lobe, externally hairy, triarticulate, basal joint the longest and stoutest, 2nd subquadrate, 3rd as long but much narrower (3).

Mentum obovate, pilose before. *Lip* minute. *Palpi* considerably longer than the maxillary, hairy, triarticulate, basal joint long and stout, 2nd short ovate, 3rd the same length but slender and naked (4).

Head *deflexed and subconic*: clypeus broad with a triangular lobe at the centre: eyes small and lateral. Thorax *cyindric, semiorbicular*: scutellum minute and sunk. Elytra *very convex, oval, scarcely depressed at the apex*: wings *very ample*. Thighs *stout but nearly linear, longer than the Tibiæ, which are short and broad, being narrowed at the base and a little dilated and serrated externally at the apex, having spiny bristles also outside, with a minute claw at the internal angle*. Tarsi *nearly as long as the tibiæ, 5-jointed, first 3 joints pubescent beneath, the basal one a little longer than the 2nd, 3rd bilobed, 4th minute, 5th the longest, clavate*: claws *strong and acute*.

SCABER *Marsh. Ent. Brit. p. 56. n. 14.*—*Curt. Guide, Gen. 335. 3.*

Short and stout, piceous, clothed with very short ochreous hairs, thickly punctured, scabrous, face concave: elytra with 9 strong striæ on each, the suture thickly clothed with short yellowish hairs, forming an obscure oblong spot towards the base: legs sometimes inclining to castaneous, with the tips of the tibiæ of a brighter colour; antennæ and tarsi ochreous, the latter rather dull.

In the Author's and other Cabinets.

LATREILLE's essential difference between this genus and *Hylurgus* is, that the former has 9-, the latter 8-jointed antennæ; they are however both 11-jointed, and I doubt very much the necessity of separating them. In examining the antennæ I observed a transverse suture on the 11th joint as indicated in the engraving, giving it the appearance of an additional joint; and not having been able to discover a labrum, I am disposed to believe that the trigonate lobe of the clypeus may supply its place.

These insects, like *Scolytus*, figured in plate 43, reside under the bark of living trees, the beetles eating their way through when they hatch: the following are natives of Britain.

1. *H. crenatus* *Fab.*—*Panz.* 15. 7.—*sulcatus* *Mars.*

I found several on an ash-tree the middle of June at Henstead in Suffolk; it is not uncommon in Norfolk and near London in August: the Honourable C. A. Harris has met with it in some abundance in a decayed ash-tree near Heron Court, Hants; and Mr. Dale took a specimen near Sherborne.

2. *H. hæmorrhoidalis* *Mars.*—*minutus* *Panz.* 15. 11.?

Said to have been taken near London.

- 2^b. *H. picipennis* *Step.*

I observed this species in abundance under the bark of a felled tree at Kirkstall Priory near Leeds, in July, but they were all dead; it has occurred also near London.

3. *H. scaber* *Mars.*—*Curt. Brit. Ent. pl.* 522.

First taken in Kensington Gardens, and afterwards by Mr. A. Mathews in his garden at Turnham Green in July; it has also been found in Surrey.

4. *H. Fraxini* *Fab.*—*Panz.* 66. 15.—*varius* *Mars.*—*griseus* and *rufescens* *Mars. vars.*

Marsham seems to have described 2 varieties of this variable insect, as distinct species. It inhabits the ash and is very common in Norfolk on the bark of that tree, also on paling, timber near saw-pits, &c.; it usually flies in the sun in the warm days of spring.

The *Cleonymus maculipennis* (*pl.* 194.) is parasitic on this species, as noticed in folio 507.

5. *H. furcatus* *Mars. p.* 55. *n.* 13.

Some suppose this to be also a small variety of the last.

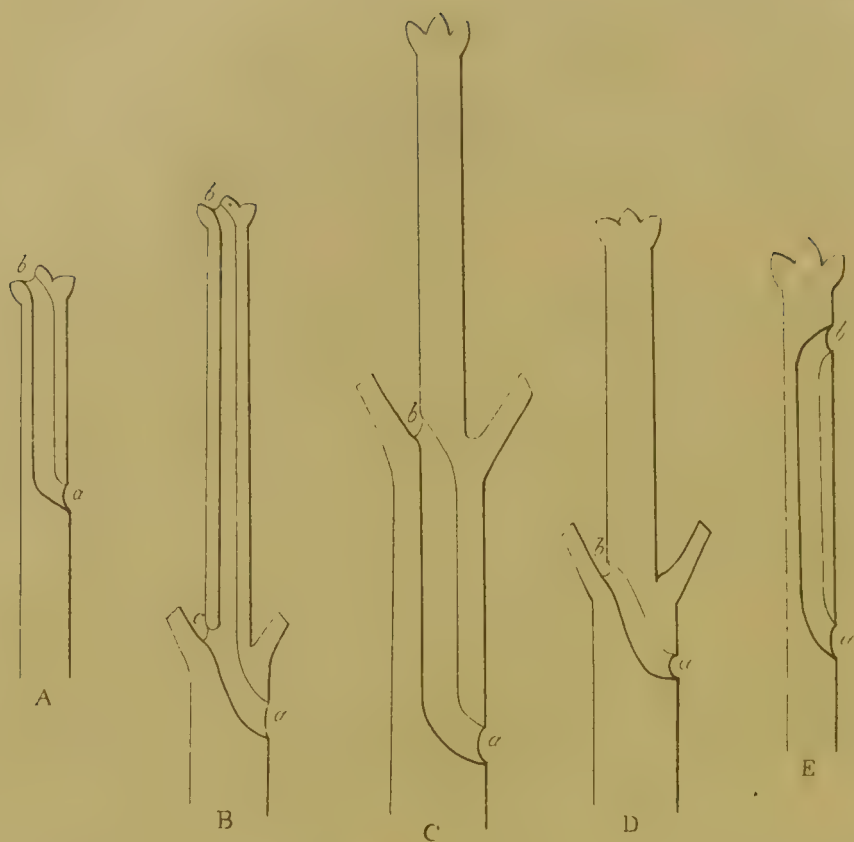
6. *H. coadunatus* *Mars.* 58. 20.

Taken by Mr. Ingpen under the bark of rails near Sydenham.

7. *H. sericeus* *Mars.* 55. 12.

Found in the neighbourhood of London.

For specimens of the Mountain Pink (*Dianthus cæsius*) I am indebted to John Queckett, Esq., of Langport.



HYLURGUS PINIPERDA.

ORDER Coleoptera. FAM. Bostricidæ *Lat., Leach.*

Type of the Genus Dermestes piniperda Linn.

HYLURGUS *Lat., Leach.* Hylesinus *Fab.* Bostrichus *Fab.* Scolytus *Oliv., Lat.* Ips *De G., Mars.* Dermestes *Linn.*

Antennæ short, clavate, pilose, inserted in a fissure on each side the head, before the eyes, 11-jointed, 1st joint very long, bent, clavate, 2nd globose, 3rd small, cup-shaped, 4 following transverse, the last being the broadest, to which is attached an ovate, globular, pubescent club, composed of 4 distinct joints (fig. 6).

Labrum minute, emarginate, ciliated (1).

Mandibles small, trigonate, acute, with 2 teeth on the internal edge (2).

Maxillæ horny, short, obtuse, armed internally with spinous bristles and pilose externally. *Palpi* very short, 3-jointed (3).

Mentum obovate, hairy. *Palpi* much longer than the maxillary, slightly pilose, robust, 3-jointed, 1st joint the largest, 3rd the smallest. *Lip* small, ciliated (4).

Head globular, slightly produced anteriorly. Eyes small, elongated.

Thorax cylindric-ovate. Abdomen cylindric. Scutellum indistinct.

Wings 2. Tibiæ compressed, dilated towards their apex, uncinated internally, and bidentate on the external edge. Tarsi inserted close to the internal angle of the tibiæ, 5-jointed, 2 first joints short, 3rd bilobed, 4th very minute, 5th elongate-truncate. Claws simple (5, a fore leg).

PINIPERDA *Linn. Syst. Nat. 2. 562. 9. Fab. Ent. Syst. v. 1. pars 2. p. 367. n. 17. Mars. Ent. Brit. 57. 18.*

Black, shining, slightly pubescent. Head and thorax rather minutely punctured, the former with a short ridge between the antennæ, the latter narrowed anteriorly. Elytra a little broader than the thorax, somewhat rugose with 9 minutely punctured striæ producing lines of hair, the interstices irregularly punctured. Antennæ and tarsi ferruginous.

Var. b. Elytra rufous.

d. B. testaceus *Fab. Ent. Syst. v. 1. pars 2. p. 367. n. 18.*

Eyes blackish. Head and thorax dull and pale ferruginous. Elytra, antennæ and legs ochraceous.

In the Author's and other Cabinets.

WE have already given in folio 43 some account of an insect that is very destructive to the Elm, and the present paper relates to another beetle of the same family, no less injurious to the young pines (both *Pinus sylvestris* and *P. Strobus*) by destroying their leading shoots.

The following observations upon *Hylurgus piniperda* and the drawings illustrating its economy were communicated by my kind friend John Lindley, Esq., and I have only to regret that the limits of the work will not allow of their being given complete.

“For the purpose of observing its proceedings more narrowly, I placed a shoot of the Scotch Fir under a glass with the insect. In about three hours after, it had just begun to pierce the bark at the base of one of the leaves; its mandibles seemed chiefly employed, its legs being merely used as a means of fixing itself more firmly. Four hours after, its head and thorax were completely buried in the shoot, and it had thrown out a quantity of wood which it had reduced to a powder, and which nearly covered the bottom of the glass. In 16 hours more it was entirely concealed and was beginning to form its perpendicular excavation, and was busily employed in throwing back the wood as it proceeded in destroying it: there were evidently two kinds of this sawdust, part consisting of shapeless lumps, but the greater portion of very thin semi-transparent lamellæ or rather shavings, which under a strong lens exhibited the appearance shown at F. I now examined it every day till the 5th, when I found it had emerged through the central buds at about an inch from where it had first commenced.

“A, B, C, D, E, are longitudinal sections of the shoots of the Scotch Fir with the various perforations of the insects; a, where it commences; b, the aperture which it makes after it has finished its excavation; c, the end of the 1st and the beginning of its 2nd excavation.”

There are 8 or 10 British species of this genus, most of which are found in June, July, and August, under the bark of trees; amongst which are

1. *Hylurgus piniperda* Linn.—*Mars. p.* 57. *n.* 18.
2. *rufus* *Mars.* 57. 19.
3. *obscurus* *Mars.* 57. 17.
4. *piceus* *Mars.* 58. 21.
5. *angustatus* Gyll.—*ater* *Mars.* 59. 25.
6. *rhododactylus* *Mars.* 58. 22.
7. *ater* *Fab.*—*niger* *Mars.* 59. 24.
8. *Boleti* *Mars.* 59. 27.



BARIS ANALIS.

ORDER Coleoptera. FAM. Curculionidæ. Cholides Schön.

Type of the Genus, Rhynchænus Artemisiæ Fab.

BARIS Germ., Dej., Curt.—Baridius Schön.—Rhynchænus Fab., Gyll.
—Curculio Linn., Mars.

Antennæ inserted in a groove on each side of the rostrum, towards the apex (7), about the length of the whole head, geniculated, 12-jointed, basal joint long and clavate, but not reaching the eyes, 2nd rather long and stout, 3rd slender, elongate-obovate, 5 following pilose, globose-quadrate, increasing in size, the remainder forming a stout, ovate-conic, pubescent club, the 9th joint being very large, the remainder transverse, the apical one very small (6).

Mandibles subtrigonal, the apex bifid, with a shoulder beneath and a notch outside (2).

Maxillæ small and slender, with an elongated lobe, ovate at the apex and ciliated. *Palpi* short, but extending beyond the lobe, triarticulate, 2 basal joints subglobose, 3rd minute and ovate (3).

Mentum scutiform, with a long bristle near each angle. *Palpi* small, triarticulate, basal joint subquadrate, apparently with a long bristle at the apex, 2nd ovate, 3rd very minute (4).

Head short, rostrum long, curved, stoutish, with a deep narrow groove on each side, somewhat beneath, extending nearly to the base; eyes immersed, remote above, but somewhat approximating beneath (7 head of *B. analis*). Thorax ovate-quadrate, twice as broad as the head at the base, with a fovea in front of the pectus: scutell minute. Elytra elliptic, convex but depressed, scarcely broader than the thorax, apex rounded. Wings ample. Legs equal, anterior coxæ remote: thighs incrassated in the middle, notched beneath towards the apex: tibiæ stoutish, tapering to the base, the apex with a claw on the inside, smallest in the hinder pair: tarsi attached to the outside, broad and 5-jointed, spongy beneath, basal joint elongate-clavate, 2nd obtrigonal, 3rd large, bilobed, 4th minute, 5th long, slender and clavate: claws stout and acute (5, a fore leg).

ANALIS Oliv.—Curt. Guide, Gen. 337.

Deep slate-black, slightly glossy: rostrum and head sparingly punctured: thorax quadrate-semiovate, very strongly punctured, with a smooth line down the back: elytra ferruginous beyond the middle, with 9 strong sharp furrows on each, with minute punctures on the interstices, and a series of white hairs on each: legs punctured, with minute white hairs; hooks of tibiæ ferruginous.

In Mr. Rudd's Cabinet.

Not having had the opportunity of carefully studying the systematic arrangement of Schönherr, I should not be warranted in criticising his labours. I shall therefore merely remark, with regard to the present genus, that he has placed the division Cholides, to which *Baris* belongs, between his Erirhinides (vide pl. 634) and his Cryptorhynchides (Acalles, pl. 550), instead of connecting it with *Calandra* as it generally has been.

Baris being the original name given to this group by Germar, it is much to be regretted that Schönherr should have changed it in his work to *Baridius*, encumbering science with an useless name and depriving one of our veteran entomologists of his just reward. The following are British species :

* *Antennæ inserted at the middle of the rostrum ; 3rd joint elongated.*

1. T—album *Linn.*—Atriplicis *Payk.*—*Oliv.* 5. No. 83. t. 27. f. 404.—pilistriatus *Kirb. var.*—hypoleucus *Mars.*

March, in moss, Battersea fields; end of May, on rushes in meadows and in hedges, Norfolk and Suffolk, J. C.; Somerset and Bristol; on *Erica tetralix*, Crwmllyn bog, Mr. Dillwyn.

** *Antennæ inserted beyond the middle ; 3rd joint short.*

2. Artemisiæ *Fab.*—*Panz.* 18. 10.—laticollis *Mars.*

May and June, on *Artemisia vulgaris*, Essex; I have taken it also in Suffolk, on sandy banks.

3. impunctatus *Kirb.*—*Step.*—*Schön.*—cyaneus *Curt.*

Suffolk and in the neighbourhood of London: my specimens I received from the late Mr. E. Hobson of Manchester.

4. analis *Oliv.*—*Curt. Brit. Ent. pl.* 766.

This valuable acquisition was only recorded as an inhabitant of the south of France, Italy and Dalmatia, until the specimen figured was captured near Ryde in the Isle of Wight, in June, by the Rev. G. T. Rudd.

5. picicornis *Mars. p.* 276. 115.—Lepidii *Müll.*—*Schö.*

Not uncommon at Gravesend; I once found several specimens at Earlham in Norfolk, in the flowers of *Reseda lutea*, pl. 48, the end of June.

Rhynceolus and *Mecinus*, which I formerly included with *Baris*, are undoubtedly distinct genera.

The plant is *Chrysocoma Linosyris*, Goldylocks, from Berryhead, Torbay, for which I am indebted to Mrs. Griffiths, of Torquay, and S. H. Haslam, Esq.



Painted by W. Curtis. London. Decr 1836

COSSONUS TARDII.

ORDER Coleoptera. FAM. Curculionidæ *Lat., Leach.*

*Type of the Genus * Curculio linearis Fab.*

COSSONUS *Clairv., Fab., Lat.* *Curculio Fab., Payk., Herbst.*

Antennæ inserted in the centre of a fissure on each side towards the extremity of the rostrum in both sexes in the type, and in the male alone in *C. Tardii* (f. 7), and near the base of the rostrum at the posterior extremity of the fissure in the female (f. 8); as long as the rostrum, geniculated, composed of 9 joints, pubescent, hairy, excepting the 1st joint which is long and smooth, 2nd and 3rd a little longer than the 5 following which are very short, club somewhat conic probably 3-jointed (fig. 6).

Labrum none.

Mandibles irregular in form, somewhat acute at the apex, with one or two teeth on the internal edge (2).

Maxillæ short, somewhat acute at the apex which is coriaceous, with a row of strong obtuse curved bristles on the internal edge: *Palpi* short, 4-jointed, 1st joint very robust, 4th small, cylindric, truncated (3).

Mentum short, narrowed at the base: *Palpi* 3-jointed, truncated (4).

Head produced into a rostrum which is dilated and depressed at the apex in both sexes in the type, and in the male alone in *C. Tardii* (7), and cylindric in the female of that species (8). Eyes scarcely prominent. Thorax broad, very much narrowed anteriorly, more or less depressed. Abdomen very much elongated, somewhat cylindric, depressed. Elytra entirely covering the body. Scutellum minute. Legs rather short. Thighs robust, notched beneath towards the apex. Tibiæ compressed, uncinated externally at the apex. Tarsi attached to the internal surface of the tibiæ, 4-jointed, 1st and 4th joints longer than the others, 3rd cordate or bifid (5 a fore leg).

TARDII *Vigors's MSS.*

Blackish, somewhat castaneous, rough, glossy. Head punctured, with a foveola between the eyes. Rostrum covered with large punctures, and a channel between the antennæ in the male; smooth in the female. Thorax deeply and closely punctured, smooth down the centre, with a transverse impressed line near the anterior margin. Elytra with about 10 deeply punctured striæ on each, the surface between rugose. Antennæ and legs castaneous, the former with the club very pubescent, the latter punctured, having a few short close hairs.—Some specimens are much more castaneous than others, and they frequently are not more than half the size of that figured.

In the Cabinets of Mr. Vigors and the Author.

* The dissections are made from *Cossonus Tardii*.

THE genus *Cossonus* was established by Clairville in the 1st volume of his excellent work "*Entomologie Helvétique*," where he has given *C. linearis* as the type of the genus: the different situation of the antennæ, as well as the form of the rostrum in the female of *C. Tardii*, are such marked differences as entitle it to be distinguished from the others, as a division if not as a genus.

I have great pleasure in adopting the specific name proposed by Mr. Vigors in honour of his friend James Tardy, Esq., of Dublin, to whom I have to acknowledge my obligations for specimens of this fine *Cossonus*, taken by himself and Mr. Vigors in July 1822, near Powerscourt waterfall, county of Wicklow, Ireland, under the bark of decayed hollies: it appears, like all wood-feeding insects, to be extremely local; for Mr. Tardy in a letter says, "I have in vain sought for it in places abounding as much in holly and in similar situations in the same county." A slimy exudation, similar to that seen where the *Nitidulæ* reside, was observed on the spots inhabited by the *Cossonus*.

The other species, which is an inhabitant of our own island, *C. linearis* F., has been found in Windsor Forest, and also in the neighbourhood of Fulham, where in June last Mr. Vigors captured a large quantity in the stump of a willow-tree: Mr. Howard Sims also took some specimens out of an old elm-tree, many years since, near Epping, Essex; these specimens Mr. Stephens suspected to be a new species, which he named *C. elongatus*, but from their mutilated state it is a difficult point to decide.

The plant figured, to which the insect is attached, is *Ilex Aquifolium* (Holly-tree).



GYMNÆTRON GRAMINIS.

ORDER Coleoptera. FAM. Curculionidæ. Cionides Schö.

Type of the Genus, Curculio Beccabungæ Linn.

GYMNÆTRON Schö.—Miarus Schö.—Cionus Germ.—Cleopus Meg., Curt.—Rhynchænus Fab., Gyll.—Curculio Linn., Mars.

Antennæ inserted in lateral grooves at the middle of the rostrum, as long as the head, geniculated, 10-jointed, basal joint long and clavate, 2nd and 3rd elongated pear-shaped, of equal length, the former the stoutest, 3 following short, more or less oblong, the 6th being stoutest and cup-shaped, the remainder forming an oval conical club, 7th joint long ovate-truncate, 8th transverse, 9th semiconic, 10th undiscovered (6).

Mandibles bidentate at the apex, with a protuberance below on the inner margin (2).

Maxillæ rounded and ciliated inside. *Palpi* very short and tri-articulate? basal joint transverse, 2nd cup-shaped, 3rd ovate (3).

Mentum elongated, nearly linear, concave before. *Palpi* very minute, composed of 2 oblong joints, 2nd the slenderest and ovate (4).

Rostrum inflected, nearly as long as the thorax, slender and but slightly curved, the sides grooved at the base: head globose, inserted up to the eyes which are lateral (7). Thorax short, broad and hemispherical: pectus grooved: scutel minute, subovate. Elytra ovate, slightly depressed, the apex truncated but rounded and not covering the pygidium. Wings ample. Legs short: thighs clavate, notched towards the apex, forming in the hinder pair a short tooth (5 †): tibiæ slightly bent, with an internal hook at the apex, largest in the anterior pair: tarsi 4-jointed, spongy beneath, 2 basal joints obtri-gonate, 3rd bilobed, 4th clavate: claws small (5). Obs. the dis-sections and description are from *G. graminis*.

GRAMINIS Gyll. 3. 210. 120.—Curt. Guide, Gen. 340. 6.

Black, very thickly punctured and clothed with fine short pubescence, giving an ochreous tinge: thorax suborbicular, truncated before and behind, broadest at the base, the hairs by meeting forming a ridge down the middle: scutel white: elytra convex, a little depressed before, with ten strong black shining channels on each: hinder thighs with a tooth beneath; all the tibiæ with a claw at the apex, largest in the anterior pair.

In the Author's and other Cabinets.

THE genus *Cleopus*, which was adopted in the Guide, has been superseded by Schœnherr, and formed into the following sections.

* Rostrum filiform: elytra subovate, convex: pygidium scarcely hidden by the elytra.

1. *Beccabungæ* Linn. *F. S.* 607.—*Veronicæ* Germ. var. Dull ferruginous; head, rostrum and thorax blackish, sides of the latter grey with pubescence; scutel white, suture dark: $1\frac{1}{2}$ line long.

June, on the *Veronica Beccabunga* (pl. 236) and other aquatic plants, Norfolk, Suffolk, and near London.

** MIARUS Schö. Rostrum filiform, immersed in a pectoral channel: elytra flattish, subquadrate: pygidium exposed.

2. Campanulæ L. S. N. 2. 607. 7.—acephalus Mar. 271. 102. Like No. 3, but smaller; the thighs are not dentated, the apex of the abdomen is bidentate in the male and foveolated in the female.

Mr. Stephens, who possesses the Marshamian collection, placed the *C. acephalus* in the wrong genus in his Syst. Cat., which caused an error in the Guide, of which he complains.

Found in June in the flowers of *Campanula rotundifolia* (pl. 324) and *C. glomerata* (pl. 85), on the Devil's Ditch, Newmarket Heath, J. C.; and on *Hypochæris maculata* by the Rev. L. Jenyns: end of July, Blandford race-course and Parley, Mr. Dale, and near Swansea, Mr. Dillwyn.

3. graminis Gyll.—Curt. Brit. Ent. pl. 627.

I am almost disposed with Paykull to consider this the female of No. 2., with which I have more than once found it.

June, grass, sides of fields near Cambridge and round London.

*** RHINUSA Kirb. Rostrum free, often attenuated towards the apex: elytra slightly depressed, subquadrate; shoulders somewhat prominent anteriorly: pygidium exposed.

4. Antirrhini Payk.—Mars. 264. 80. Black, punctured, and sparingly clothed with short ochreous hairs, forming series between the channels on the elytra: rostrum short, straight, thick and attenuated; thighs unarmed: $1\frac{1}{4}$ line.

Common in Norfolk and Suffolk in the flowers of *Antirrhinum Linaria* (pl. 64); Dover, beginning of September.

5. intaminatus Kirb. MSS. Elongate-ovate, black, shining, punctured, slightly pubescent; rostrum short and stout, apex attenuated; funiculus castaneous; elytra with narrow channels and series of punctures between them, thighs unarmed: nearly 1 line.

August, Norf., Suff., the Isle of Wight, and near London.

6. Linariæ & teter Panz. 26. 18. Black, subdepressed, sparingly clothed with cinereous pubescence; rostrum thickish, very curved; antennæ short, thick; thighs indistinctly dentate: $1\frac{1}{3}$ line.

Norfolk, on *Antirr. Linaria*, at the roots of which it is said by Panzer to undergo its metamorphoses in a gall-shaped cocoon.

7. tricolor Mars. 259. 65.—labilis Herb. Subcylindric, black, punctured, sparingly clothed with short rigid hairs: antennæ short, ferruginous, the scape scarcely longer than the 2nd joint, club black; rostrum short and cylindric; elytra with a spot on each at the base and apex, an oblique band beyond the middle and the costa rufous; legs ferruginous, thighs black, angulated beneath: 1 line.

June, off a willow, Knaresborough, J. C., and Mr. Walton took several; amongst short grass, Norf., Suff., and N. Wales.

C. Nasturtii is included in this genus by Mr. Stephens, but its 7-jointed funiculus shows that it does not belong to the Cionides.

The Plant is *Campanula Trachelium*, Nettle-leaved Bell-flower.



MONONYCHUS PSEUDACORI.

ORDER Coleoptera. FAM. Curculionidæ *Lat., Leach.*

Type of the Genus, Rhynchænus Pseudacori Fab.

MONONYCHUS *Schüpp., Germ., Schön.*—*Rhynchænus Fab., Oliv.*—*Falciger Dej.*

Antennæ inserted on each side the rostrum a little before the middle, rather short slender pubescent and geniculated; 12-jointed, basal joint not very long, clavate, 2nd pear-shaped, rather longer and more robust than the 6 following, the 3rd very slender, the 5 following slightly increasing in size, the 9th and remainder forming a fusiform-oval club, the apical joint being very minute (6).

Labrum none.

Mandibles forming 2 large teeth at the apex and a small one on the inside towards the base (2).

Maxillæ short forming one large ciliated lobe. *Palpi* extending beyond the apex of the lobe, robust, composed of 3 subquadrate joints and terminated by a minute one (3).

Mentum elongated, narrowed at the base. *Lip* ovate, coriaceous at the base, membranous at the apex, producing 2 bristles on each side. *Palpi* inserted near the middle, short, triarticulate, basal joint subquadrate furnished with 2 bristles, 2nd short cup-shaped, 3rd very minute (4).

Rostrum elongated, slightly arcuated and cylindrical, bent close to the sternum when at rest. *Eyes* lateral, rotundate, not prominent (7). *Thorax* triangular-truncate, posterior margin convex. *Scutellum* triangular and acuminate. *Elytra* shorter than the Abdomen, subquadrate and compressed behind the scutellum. *Wings* ample. *Thighs* clavate with a slight notch beneath, near the apex. *Tibiæ* somewhat compressed, emarginate externally towards the apex. *Tarsi* spongy beneath, 4-jointed, 1st and 2nd joints of equal size, semi-ovate, 3rd forming two perfect lobes, 4th slender, subclavate, with a simple Claw to each foot (5).

PSEUDACORI *Fab. Ent. Syst. v. 1. pars 2. p. 408. n. 61.*

Black, slightly glossy, punctured all over. Head hollowed between the eyes, with a few ferruginous scales at the base of the rostrum, the antennæ, excepting the club, of the same colour. Thorax ochreous on the sides, with a large channel down the back. *Elytra* with an ochreous oblong spot behind the scutellum, 10 clean-cut punctured striæ on each, 2 of them passing round a protuberance near the apex. Underside clothed with yellowish shining scales; the Tarsi beneath ochreous.

In the Author's Cabinet.

MONONYCHUS, as the name implies, has but one claw to each tarsus,—a remarkable character which I believe will distinguish it from all other Curculionidæ. In stature and appearance our genus resembles the Ceutorhynchi; but, independent of the single claws, the antennæ are inserted before the middle, and the tibiæ are notched and somewhat spined towards the apex.

For the first specimens I possessed of this insect, I was indebted to Mrs. Griffiths of Torquay, Devon; and this autumn, when botanizing in the Isle of Wight, I discovered its habitat and æconomy.

By the name assigned to it by Fabricius, we should expect to find it attached to the *Iris Pseudacorus*: whether such be the case I am unable to say, but all that I found were amongst the seeds of the *Iris fœtidissima*: some capsules contained two beetles, in which instances there were two seeds excavated, like the one represented in the plate. Some seeds also contained a maggot, others a pupa.

It is somewhat singular that not one beetle could be found upon the leaves or stalks of the *Iris*, every specimen being inclosed with the seeds in the capsule; but what is still more remarkable, the perfect insects appear at the period when the seeds are ripe. Where then do they deposit their eggs? the beetles must either remain during the winter buried with the seeds amongst the herbage, or, what is equally probable, some of them may remain in the larva and pupa states until the spring; and although the *Iris* does not flower till June, its conspicuous capsule may be easily perforated at that, or even an earlier period. I trust that these observations will incite inquiry, to ascertain whether the beetles can be found depositing their eggs in the capsule of our plant, and also whether it can be detected on the *Iris Pseudacori*.

The flower of *Iris fœtidissima* (called Gladwyn and Roast-beef Plant) has been figured in pl. 131, and the handsome opening capsule is now represented. It is a local plant, but is abundant on the under-cliff at the back of the Isle of Wight, at Dartford in Kent, the bath-hills near Bungay, Suffolk, &c.; and any discoveries relating to the insect might be made known through the medium of Mr. Loudon's valuable Magazine of Natural History.

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CEUTORHYNCHUS GERANII.

The Geranium Weevil.

ORDER Coleoptera.

FAM. Curculionidæ.

Type of the Genus, Curculio Geranii Payk.

CEUTORHYNCHUS Schüp., Germ., Schön., Curt.—Cœliodes, Nedyus, Poophagus and Rhinoncus Schön.—Campylirhynchus Meg.—Falciger Meg.—Rhynchænus Fab., Gyll.

Antennæ inserted at the middle of the rostrum, on each side, rather short, slender, geniculated, slightly pilose, 12-jointed, basal joint elongated, clavate, 2nd short obovate, 3rd slender and longer than the 2nd or following, 4th and 5th elongate-ovate, 3 following ovate, 8th the stoutest, 9th saucer-shaped, the remainder forming an ovate conic-club, 10th large and cup-shaped, 11th small and saucer-shaped, 12th minute, ovate (6).

Mandibles subtrigonal, notched externally, with a trigonal tooth at the apex and a larger one on the inside (2).

Maxillæ forming a rounded and very hairy lobe, densely ciliated.

Palpi short and 4-jointed? basal joint cup-shaped, 2nd and 3rd short, more ring-shaped, 4th small, ovate-truncate (3).

Mentum orbicular, concave before. *Lip* small and ovate. *Palpi* minute, triarticulate, 2 basal joints bowl-shaped, 1st the largest, 3rd very small and ovate (4).

Head globose (7), *nutant, not immersed to the eyes; rostrum considerably longer than the head, filiform, a little curved, received into a groove in the breast: eyes lateral, remote and ovate. Thorax sub-ovate-truncate, anterior margin narrow and reflexed, the base bisinuated, with spines or tubercles on the back or sides; scutell concealed in a deep channel. Elytra broad, short, orbicular or ovate, scabrous, truncated at the base, the shoulders prominent, covering the abdomen, excepting the pygidium: wings ample. Legs moderately long and stout, nearly equal, anterior the most approximating: thighs compressed, with a tooth beneath: tibiæ clavate, with an external blunt tooth towards the apex, where it is serrated with bristles and truncated: tarsi spongy beneath, quadriarticulate, 2 basal joints obtrigonal, 3rd bilobed, 4th small, clavate: claws small, bifid at the apex (5, a fore leg).*

GERANII Payk.—Curt. Guide, Gen. 345. 1.

Black, shining, strongly and thickly punctured, excepting the apex of the rostrum; sparingly clothed with short rigid hairs; thorax with a short tooth on each side near the middle: elytra with 10 deep punctured striæ on each, the interstices flat, with a row of tubercles, each terminated by a short hair; underside clothed with white scales; all the thighs with a small tooth beneath and all the tibiæ with a bristly tooth outside.

In the Author's and other Cabinets.

THE extensive group termed *Ceutorhynchus* having been formed into several genera by Schönherr, I introduced all that were

published into my new "Guide," and shall here give their characters.

* *Antennæ 12-jointed.*

CÆLIODES. *Rostrum long; pectoral channel for receiving it reaching to the intermediate coxæ: tibiæ with a tooth outside.*

1. *Geranii Payk.*—*Curt. Brit. Ent. pl.* 670.

The end of June I observed many specimens at Giggleswick eating the petals of *Geranium sanguineum*; Mr. Walton took it in plenty on *G. pratense* at Knaresborough, and Mr. Dale at Ambleside.

4. *Quercus Herb. Col.* 6. *pl.* 92. *f.* 7. May, on oaks, Norfolk.

CEUTORHYNCHUS. *Rostrum long; pectoral channel for receiving it not extending beyond the anterior coxæ: tibiæ simple.*

13. *Asperifoliarum Gyl.* 3. 221. 128.

11th June in a wood near Norbury Park, in abundance on *Cynoglossum sylvaticum*, Mr. Walton.

16. *litura Payk.*—*Gyl.* 3. 222. 129.

May, on thistles, Norfolk; Sept. flying, at Durnford.

19. *Ericæ Gyl.* 3. 147. 69.

16th August in abundance on heath, ascending the Fairy Hills near Brodick in Arran; Parley and Nighton Heaths.

32. *Chrysanthemi Germ.*—*rugulosus Gyl.* 3. 231. 136. *var. c.*

11th June in abundance in grassy fields at Mickleham.

POOPHAGUS Schön. *Body somewhat elongated and depressed.*

35. *Nasturtii Spence.*—*Step. Ill. pl.* 20. *f.* 1.

First discovered near Hull by Mr. Spence, and by Mr. Walton near Knaresborough, on *Nasturtium officinale* the end of last June and beginning of July.

RHINONCUS Schön. *Rostrum short and stout.*

47. *Pericarpus Linn.*—*Gyl.* 3. 157. 78.—*Herb. pl.* 91. *f.* 12.

May, Coomb Wood, on docks and thistles, and in the pericarp of a *Scrophularia*.

48. *Castor Fab.*—*leucostigma Mar.* 255. 51.

May, Thetford and Tollsbery, Essex, in corn fields.

346^d. ANOPLUS Schup. *Tarsi with the claws wanting.*

60. *plantaris Gyl.* 3. 252. 152.—*brevis Mars.* 265.

July, on alders and birch in Norfolk, also in Coomb and Darent Woods.

** *Antennæ 11-jointed.*

346^c. PACHYRHINUS. *Rostrum short and thick.*

56. *Comari Gyl.*—*Curt. Brit. Ent. pl.* 558.

346^e. AMALUS Schön. *Rostrum elongated and slender.*

63. *Scortillum Herb. pl.* 92. *f.* 13.—*inflexus Mars.* 253. 43.

May, hedges in Norfolk; Wrentham, Suffolk; and Battersea-fields.

For specimens of the beautiful *Geranium phæum*, Dusky Crane's-bill, I am indebted to J. Walton, Esq., who gathered them near Knaresborough.



PACHYRHINUS COMARI.

ORDER Coleoptera. FAM. Curculionidæ.—*Eirrhinides* Schö.

Type of the Genus, Curculio Comari Herbst.

PACHYRHINUS Kirby.—*Hydaticus* Schö.—*Rhynchænus* Gyl.—*Ceutorhynchus* Germ., Curt.

Antennæ inserted in a lateral groove a little beyond the middle of the rostrum, longer than the head, geniculated, capitate and 11-jointed, basal joint not half the length of the remainder, stout and narrowed at the base, 2nd shorter, but longer and stouter than the 6 following, 3rd and 4th slender and ovate, 3 following globose, 8th stouter and cup-shaped, with longish hairs, the remainder forming a pubescent, ovate-conic club, 9th joint the largest, 11th small (6).

Mandibles subovate, concavo-convex, external margin notched, one a little sinuated internally (2).

Maxillæ short, the internal margin partially ciliated, and furnished with several hooked spines. *Palpi* short, composed of 4 short joints, gradually decreasing in size, cup-shaped, the terminal joint small and ovate (3).

Mentum? obovate. *Palpi* as long as the mentum, triarticulate, basal joint the largest, ovate, 2nd subquadrate, 3rd small subovate (4).

Rostrum short, thick and a little curved: head subglobose: eyes rather small remote and orbicular. (7, upper side of head.) Thorax transverse, narrowed before, slightly tuberculated behind and bisinuated. Scutellum very minute. Elytra ovate-convex, truncated at the base, and not covering the apex of the abdomen. Wings ample. Legs not short and rather slender, anterior approximating: thighs somewhat inflated, with the apex a little capitate: tibiæ nearly straight and slightly clavate, the apex furnished with spiny bristles: tarsi pubescent beneath, 4-jointed, two first joints obtrigonal, basal one a little longer than the 2nd, 3rd bilobed, 4th slender and clavate: claws small curved and acute (5, a fore leg).

COMARI Gyll.—Curt. Guide, Gen. 345. n. 56.

Black, clothed with gray and other scales and strongly punctured; yellowish-white beneath; rostrum variegated with gray scales; thorax with a large black space at the base, with a pointed tubercle on each side, a shallow channel and pale line down the centre, the sides with large patches of brown and pale yellow; elytra punctured and deeply striated, variegated with numerous gray spots of scales, forming a long spot down the base of the suture and several interrupted fasciæ; antennæ castaneous, basal joint the brightest, club gray with pubescence at the apex; tips of thighs, tibiæ and tarsi castaneous.

In the Author's and other Cabinets.

I HAVE restored my friend Mr. Kirby's name, for independently of its having been long given to this group, Schönherr's is preoccupied by a genus of the Dyticidæ. The very thick proboscis and short basal joint of the antennæ are characters to distinguish *Pachyrhinus*, which contains the following species, all of which, excepting No. 3, have been taken in the vicinity of London: some are attached to sandy wastes, and others are found on marsh or subaquatic plants.

1. *P. leucogaster* Mars. p. 253. 45.—*asperatus* Gyll. v. 4. 583.
Piceous-black, above cinereous, white with scales beneath, legs testaceous, variegated with fuscous, thorax bituberculated, elevated and ferruginous before, elytra scarcely tuberculated. Gyll.

May, hedges, Somersetshire, &c.

2. *rufescens* Step. Ill. v. 4. p. 50.

Dull pitchy-red, cinereous beneath, thorax with a white dorsal channel, elytra broad immaculate, base of the suture white, antennæ and legs reddish-piceous: length $1\frac{1}{4}$ to $1\frac{1}{2}$ lines. Step.

Taken in Somersetshire, &c.

3. *Comari* Herb.—Curt. Brit. Ent. pl. 558.

Mr. Kirby took a specimen on the plant figured by the Moore's river, Hants, July 6th, 1821, and I believe Mr. Dale has captured it at Hurne and in the New Forest; Mr. Skrimshire has also observed it at Barnham in Norfolk.

4. *quadridentatus* Step. Ill. 4. 51.

Black, above cinereous, white with scales beneath, thorax obscurely channelled, with 4 acute tubercles, tibiæ rufous: length $1\frac{1}{2}$ line. Step.

Taken in the New Forest.

5. *quadrinodosus* Gyll. 3. 155. 76.—*mucronulatus* Germ. 239. 369.

Black, base of suture and abdomen white with scales, legs rufous, thorax deeply punctate, the elytra tuberculated. Gyll.

From the vicinity of Bristol.

6. *Myriophylli* Gyll. 3. 152. 73.—*Hydrolapathi* Step.

Somewhat depressed, opaque black, beneath densely scaly, white, above smoky, scaly, sprinkled with white, legs testaceous, thorax uneven, tuberculated. Gyll.

Inhabits *Myriophyllum spicatum*. Taken on the Water-Dock at Newcastle by Mr. Wailes.

The Plant is *Comarum palustre* (Marsh Cinquefoil.)



ACALLES ROBORIS.

ORDER Coleoptera.

FAM. Curculionidæ.

Cryptorhynchidæ Schö.

*Type of the Genus, Curculio Ptinoides Marsh.*ACALLES Schö.—*Tylodes Schö., Curt.*—*Cryptorhynchus Curt.*—*Rhynchænus Gyll.*—*Curculio Marsh.*

Antennæ inserted in a groove on the side of the rostrum about the middle, geniculated, 12-jointed, basal joint about half the length of the remainder, stout and clavate, 2nd and 3rd elongated, the former the longest and stoutest, 5 following subquadrate, 8th the largest and rather funnelshaped, the remainder forming a short ovate club, pubescent at the apex (6).

Mandibles somewhat trigonate, convex inside at the base, bifid at the apex (2).

Maxillæ produced on the inside and ciliated with stout blunt bristles. *Palpi* short and triarticulate, basal joint stout somewhat quadrate, 2nd small, 3rd slender and rounded at the apex (3).

Mentum long and narrow, dilated at the base and apex, which last is bisinuated. *Palpi* small and triarticulate, basal joint ovate and a little the stoutest, 3rd the smallest (4).

Rostrum received into a groove in the breast, as far as the anterior *coxæ*; a little arched and slightly narrowed at the middle: head globose but concealed nearly to the eyes which are small lateral and ovate. Thorax subglobose, truncate at the base, a little produced before and sinuated behind the eyes: scutellum none. Elytra connate, globose, a little tapering to the apex, the sides inclosing the abdomen. Wings none. Legs rather short: thighs rather elongated and slightly notched beneath towards the apex: tibiæ shorter, notched at the apex and producing an incurved spine: tarsi short, 4-jointed, basal joint a little longer than the 2nd which is subcordate, 3rd bilobed, 5th slender and clavate: claws minute curved and acute (5, a fore leg).

ROBORIS Curt. MSS.—*Guide, Gen. 346. 3.*

Piceous, clothed with cinereous-ochre scales, somewhat erected, rostrum naked, shining and ferruginous, base yellow with scales, antennæ ferruginous; crown of head blackish, as well as 2 slightly elevated tufts of scales on the fore part of the thorax, the back of which is deeply channelled and flattened, forming a subcordate blackish space, elevated in front with 2 spots of cinereous scales, sides yellow variegated with ochre, with a slight tubercle on each beyond the middle: elytra strongly striated with deep little foveæ, the interstices elevated, especially the 2nd and 4th at the middle, and the 3rd and 5th at the base and towards the apex, forming 6 elevated oblong black spots of scales on each, an irregular dark band extends across the middle: legs annulated with brown.

In the Author's Cabinet.

TYLODES is distinguished from *Cryptorhynchus* by the absence of a scutellum. It was established as a genus by Schönherr in his "*Curculionidum Dispositio Methodica*," where he characterizes *Acalles* as a subgenus, which he says differs from the former one in the structure of the antennæ and elytra, and the canal beneath the thorax is more abbreviated. Not seeing the utility of giving names to sections so slightly different in structure, I adopted in my Guide the name of *Tylodes*, and *A. Roboris* very much resembling *C. Lapathi* in form, I included them in the same genus.

The following are British species of *Acalles*:

1. *Ptinoides Marsh. p. 258. 59.*

Length $1\frac{1}{4}$ line. Pitchy-castaneous, rugose with large punctures, partially filled with ochreous and somewhat erected scales, forming 4 indistinct lines on the thorax: rostrum, antennæ and tarsi castaneous or ferruginous: elytra deeply striated, with little foveæ, ochreous with scales, excepting a fascia across the middle, 2nd and 4th striæ elevated, with 2 oblong black tufts of scales on each: base and a band at the middle of the thighs and tibiæ clothed with ochreous or whitish scales.

Not uncommon in Norfolk on nettles in hedges in May. Mr. Dale has taken it in June and the beginning of October at Barton Cliff, Hants, and at Maiden Castle near Dorchester, and Mr. Dillwyn near Swansea.

2. *Roboris Curt. Brit. Ent. pl. 550 ♀.*

The natural size of the female is pretty nearly given below the magnified figure, but the male is smaller. I took a pair of this curious and rare insect off an Oak-tree in Suffolk the beginning of June many years since.

3. *globulus Herbst C. 6. 398. 376. tab. 91. f. 7.*

"Black, somewhat opaque, dorsal line and sides of breast with white scales, elytra globose, deeply sulcated and punctured, interstices narrow and crenated." *Gyll. 3. 235. 138.*

He says it lives in the young shoots of the Trembling Poplar.

Mr. Stephens has called it *Rutidosoma* and Schönherr probably will give it another name.

For the rare and beautiful *Lobelia urens* (Acrid *Lobelia*) I am indebted to B. R. Morris, Esq., who found it near Axminster.



ORCHESTES WALTONI.

ORDER Coleoptera.

FAM. Curculionidæ.

*Type of the Genus, Curculio Alni Linn.*ORCHESTES *Ill., Oliv., Schö., Curt.*—*Salius Schr., Germ.*—*Rhynchænus Fab., Gyl.*—*Curculio Linn., Mars.*

Antennæ generally as long as the rostrum, and inserted in a cavity on each side (7), more or less removed from the eyes, sometimes near the centre, geniculated, capitate, pilose and 11-jointed, basal joint stout, sometimes long and clavate, 2nd half as long, thick and clavate, 3rd rather shorter, slender and clavate, 4th oblong, 3 following obovate, the 7th being stouter and more globose, the remainder forming a pubescent ovate-conic club, composed of 4 joints, 1st cup-shaped, 2nd as large, 3rd short, 4th small and semiovate (6).

Mandibles subtrigonal and tridentate, the upper tooth generally the smallest, the lower one sometimes rounded (2).

Maxillæ short and narrow, densely ciliated internally. *Palpi* very short, slender and triarticulate (3).

Mentum long. *Lip* suborbicular. *Palpi* minute biarticulate (4).

Head small; rostrum *inflected, elongated, stout, curved, subcylindric* (7 * *profile*): eyes large, globose, generally approximating in front (7). Thorax ovate, the base bisinuated: scutellum very minute. Elytra often twice as broad as the thorax, elongate-ovate, shoulders prominent. Wings ample. Legs, anterior approximating, hinder formed for leaping: thighs stout, 4 anterior with a minute tooth beneath, hinder greatly incrassated, ovate-conic, the margin beneath from the end to the apex denticulated and bristly: tibiae, anterior clavate, with a minute claw at the apex, intermediate pectinated externally towards the apex, with a claw also (5 *); hinder doubly pectinated towards the apex and truncated obliquely (5 †): tarsi 4-jointed, hairy beneath, basal joint elongate clavate, 2nd shorter somewhat obtrigonal, 3rd broad and bilobed, 4th as long as the 1st, slender and clavate: claws curved, acute, with a tooth near the base.

WALTONI *Curt.—Guide, Gen. 351.*

Black clothed with short yellowish hairs; head and thorax thickly punctured; rostrum reaching to the anterior coxæ; eyes approximating; antennæ inserted near the base of the rostrum (7 and 7 *) ferruginous, club piceous at the apex, basal joint obovate, stouter but not longer than the 2nd: funiculus 6-jointed; elytra with 8 punctured furrows on each and minute punctures between them; hinder thighs alone angulated beneath and furnished with a few short bristles; tarsi ferruginous, piceous at the apex.

In the Cabinets of Mr. Walton and the Author.

MINUTE as these insects are, they have the power by the combined action of myriads to destroy the verdure of the finest groves, and to give an autumnal tint even in the commencement of summer to the green woods which they assail.

In 1832 Lord Farnham informed me that the Beech trees on his estate in Cavan, Ireland, had for the last 3 or 4 years suffered, not only in appearance, from the leaves being partially blighted by a species of these insects (*O. Fagi*) in June and the beginning of July, when they assumed an autumnal appearance, but the general health of the trees seemed to be considerably impaired. It appeared that on the bud opening it was immediately occupied by the *Orchestes*, which perforated the leaves, and to so great an extent that scarcely a tree escaped.

On the 10th of June in the previous year, in a ramble through the New Forest, I observed the leaves of the trees looked very brown, and those of the Beech were quite blistered, which I at first attributed to the severe frost we had in the morning of the 6th of May; but on examining them I found a larva was inclosed in each leaf, which in a short time changed to *O. Fagi*; so that at the period Lord Farnham observed it in Ireland, this beetle seemed to have been equally abundant in England.

The Elm is equally subject to the attacks of another species, which is named, but somewhat improperly, *O. Alni*. A lady sent me some specimens from larvæ she detected in the leaves of the Elm the end of May and beginning of June; they blistered the leaves from feeding on the parenchyma in a similar way to the other species, and the beetles hatched in June.

Schönherr has given the following sections in *Orchestes*, and 21 species are recorded in the Guide.

1. *Posterior femora denticulated.*

1. *Alni* Linn.—Don. *Brit. Ins.* v. 7. pl. 249. f. 2.

9^b. *Waltoni* Curt. *Brit. Ent.* pl. 678. This undescribed species was found near Knaresborough by J. Walton, Esq., whose laborious investigation of the Apions and other Curculionidæ entitle him to the thanks of all entomologists. Several specimens were swept off herbage on the sides of ditches the beginning of last September.

2. *Posterior thighs unarmed.*

11. *Salicis* Linn.—Avellanæ Don. *B. I.* v. 6. pl. 205. f. 3.

3. *TACHYERGES* Schö. *Funiculus* 7-jointed: thighs always simple.

15. *Capreæ* Fab.—Don. 4. 121. f. 5. 6. 7.—*bifasciatus* Fab.

Schönherr in his characters of this genus does not notice the singular pectination of the tibiæ, and he says the apex is *not* uncinated. It appears from his work that great confusion has been made in the "Illustrations," several species being placed under the wrong divisions; for instance, Mr. Stephens's *Orchestes decoratus* is a *Tachyerges*, and his *T. Salicis* and *Populi* are *not* *Tachyerges*. Many of the synonyms also are incorrect and consequently mislead.

The Plant is *Veronica montana*, Mountain Speedwell, communicated by Dr. Bromfield.



ANTHONOMUS POMORUM.

The Pear and Apple Weevil.

ORDER Coleoptera. FAM. Curculionidæ.—Eirirhinides *Schö.*

Type of the Genus, Curculio Pomorum Linn.

ANTHONOMUS *Germ., Schö., Dej., Curt.*—Pallene *Meg.*—Rhynchænus *Fab., Gyll.*—Curculio *Linn., Marsh.*

Antennæ inserted beyond the middle of the rostrum (7), long, slender, geniculated and 12-jointed, basal joint equal in length to the remainder, clavate, the following pubescent, 2nd elongate-clavate, 3rd short obovate, a little longer than the 5 following which are nearly globose and gradually increasing in diameter, the remainder forming an ovate-conic club, the apical joint being the smallest (6).

Mandibles bidentate, the lower tooth large and curved (2).

Maxillæ furnished with an internal ovate lobe, ciliated with short curved spines. *Palpi* short and triarticulate, two basal joints somewhat cup-shaped, 3rd slender and oblong (3).

Mentum linear. *Lip* semiorbicular, the anterior margin bisinuated. *Palpi* short and triarticulate, 2 basal joints cup-shaped, 3rd subovate (4).

Head *rather small*. Eyes *small, globose and prominent, placed close to the base of the Rostrum which is longer than the thorax, slender and a little curved* (7, upper side of head and rostrum). Thorax *subconic, suddenly narrowed before*. Scutellum *distinct, suborbicular and a little convex*. Elytra *ample, elongate-ovate, twice as broad as the thorax, very convex behind*. Wings *ample*. Legs *rather long and slender, anterior a little the longest and approximating*. Thighs *incrassated but narrowed at the base, with a strong trigonate tooth beneath near the apex, largest in the anterior*. Tibiæ *a little curved, acuminate at the internal angle of the apex, and slightly dilated and convex on the inside a little below the middle in the anterior pair*. Tarsi *4-jointed, 2 basal joints subtrigonate, 3rd forming two elongated lobes, 4th clavate*. Claws *simple* (5, a fore leg).

POMORUM *Linn.—Curt. Guide, Gen. 356, 10.*

Piceous, punctured and clothed with depressed ochreous and ferruginous hairs; antennæ ferruginous, excepting the base and club; anterior edge of thorax of same colour, with a pale line of hair down the middle; scutellum white: elytra with punctured striæ, indistinctly tessellated with hairs, having a pale U-shaped mark beyond the middle, with a row of white dots on the margin, bounded on both sides by a piceous bar, the upper one oblique, the hinder one more transverse, apex bright ferruginous. Legs ferruginous, excepting the middle of the thighs; tarsi dusky as well as the base of the tibiæ.

In the Author's and other Cabinets.

MANY of the species of this genus live in their larva state upon the flower-buds of fruit-trees, in many instances committing such extensive ravages amongst the apple and pear blossoms as to destroy the crop.

The following species have been detected in this country, and the three first are distinguished from the remainder by the thighs being less distinctly toothed.

2. *A. clavatus* Mars. 285. 140.

3. *Rubi* Herb. v. 6. tab. 71. f. 8.—*melanopterus* Mars. 289. 151.
Found in Norfolk, inhabiting the Raspberry and Dewberry.

4. *ater* Mars. 285. 141.

Found on Sallows in Norfolk, and probably near Swansea, amongst herbage.

5. *obscurus* Wilk.

June, near London and Bristol, I believe also in Norfolk.

6. *Druparum* Linn.—Herb. v. 6. tab. 70. f. 9.

Inhabits the Bird Cherry, and is found near London, and in Somersetshire.

7. *Pedicularius* Linn.—*avarus* Fab.?—*Druparum* Herb. var. pl. 70. f. 10.

A common species among grass in woods, in Norfolk I have found it on the Crab-tree when in flower.

8. *fasciatus* Mars. 286. 144. is probably a variety of the following.

June, hedges, Norfolk. "On hedge roses, and particularly on the flowers of *Rosa spinosissima*, on Sketty burrows, not uncommon, and I have observed it on the flowers, but not on the leaves of *Cratægus Oxyacantha*." L. W. Dillwyn, Esq., Penllergare.

9. *Ulmi* DeG. v. 5. pl. 6. f. 26—30.—*Pomorum* var. Herb.

I have met with it in Suffolk, the end of June. It inhabits the Elm, in the buds of which tree the larvæ live, and may be found the end of May.

10. *Pomorum* Linn.—Curt. Brit. Ent. pl. 562.

The larvæ were found the 8th of May in Pear and Apple blossoms, eating out the whole inside, and leaving only the petals and calyx: they were observed to be in pupæ on the 21st, and on the 25th they hatched. The beetle hibernates under the bark of Apple-trees.

11. *incurvus* Panz. 36. 17.—*fasciatus* Don. 12. pl. 414. f. 3.

Inhabits the Bird Cherry (*Prunus Padus*), and has been found near Bristol in June.

The plant is *Viscum album mas* (White Misseltree).



ERIRHINUS ÆTHIOPS.

ORDER Coleoptera. FAM. Curculionidæ. Erirhinides Schö.

Type of the Genus, *Curculio acridulus* Linn.

ERIRHINUS Schö.—*Dej., Curt.*—*Notaris Germ., Curt.*—*Rhynchænus Fab., Gyll.*—*Curculio* Linn.

Antennæ inserted considerably beyond the middle of the rostrum, long, slender, geniculated and 12-jointed, basal joint very long and clavate, 2nd and 3rd elongated, the former rather the longer, 4th and 5th small obovate, 3 following globose, the 8th being a little the largest and slightly depressed, the remainder forming a stout ovate-conic club (6).

Mandibles oblong, bisinuated externally, with 2 short stout teeth at the apex (2).

Maxillæ terminated by a long lanceolated lobe, extending beyond the palpi, densely pubescent, with a small one at the middle of the inside. *Palpi* short, stout, a little attenuated, triarticulate, basal joint transverse, 2nd more quadrate, 3rd ovate (3).

Mentum a little narrowed at the base, emarginate before, the angles rounded. *Lip* minute, rounded and hairy. *Palpi* a little elongated, slender, naked and formed of 3 small short joints nearly of equal length, 3rd the slenderest and oval (4).

Head globose (7): rostrum as long as the head and thorax, curved, cylindrical, slightly dilated at the apex: eyes oval. Thorax cylindric, suborbicular, a little narrowed before, the anterior margin and base truncated: scutellum small and subtrigonal. Elytra elongate-ovate, attenuated at the apex: wings ample. Legs rather stout but moderate, of equal length: thighs not toothed, incrassated at the middle: tibiæ a little undulating internally, dilated at the apex, with a minute tooth at the inner angle: tarsi very pilose beneath, 4-jointed, 1st and 2nd joints obtrigonal, 3rd cordate or bilobed, 4th long and clavate: claws short and pointed (5, a fore-leg).

ÆTHIOPS Fab.—*Curt. Guide, Gen.* 359.

In the Cabinets of Mr. Wright and the Author.

GERMAR's two genera *Notaris* and *Dorytomus* are incorporated by Schönherr with his genus *Erirhinus*. I shall in part adopt his views, but the typical species of *Dorytomi* differ so materially in their contour and in the great length of the anterior legs, especially in the males, that I shall still keep them separate. The following are British species.

Gen. 358. ERIRHINUS: with all the tibiæ curved.

1. *Festucæ* Herb.—*Caricis* Thunb.

Oblong, fuscous, densely clothed with cinereous scales, rostrum and legs reddish-ferruginous: $3\frac{1}{4}$ lines long.

Gyllenhal says it inhabits the flowers of *Carex acuta* and other aquatic plants in rivers and lakes.

2. *Nereis Payk.*—inquisitor *Herb.*—Typhæ *Ahr.* 4. 69.

Elongate-linear, fuscous, obscure-ferruginous above, densely clothed with cinereous scales, rostrum and legs rufo-ferruginous: elytra piceous before: $2\frac{1}{2}$ lines.

May, in a pond at Southgate; June, upon aquatic plants, Norfolk, Oxford, and Swansea.

3. *Arundineti Kirby.*

Elongate-linear, piceous, obscure-ferruginous above, densely clothed with cinereous scales, rostrum and legs reddish-black: elytra mottled with cinereous scales: $1\frac{1}{2}$ line.

Probably only a small *variety* of *Nereis*: found in damp hedges in Suffolk and Cambridgeshire in June.

Gen. 359. NOTARIS: with the anterior tibiæ only curved at the apex.

4. *Æthiops Fab.*—badensis *Linn.*?—holomelanus *Herb. var.*

Very smooth shining black, head thickly punctured; rostrum with a few long irregular furrows formed by coarse punctures: thorax strongly punctured, with a free space down the centre: elytra very delicately punctured, with 8 or 9 deeply punctured striæ on each: legs and antennæ bright castaneous, 3 basal joints of tarsi and apex of antennæ fuscous.

For specimens of this rare insect I am indebted to G. A. Wright, Esq., who took them, I believe, in Yorkshire.

5. *acridulus Linn., Panz.* 42, 10.—punctum *Fab.*—resinosus and rigidus *Mars.*

Dull black, thickly punctured; thorax with large strong punctures, a smooth elevated line down the middle, and an ochreous dot on each side; elytra with punctured striæ, mottled with greyish hairs and a whitish dot on each beyond the middle: antennæ ferruginous, club fuscous; legs more or less inclined to castaneous: $2\frac{3}{4}$ lines.

Very common all the year on aquatic cruciferous plants at the sides of ditches and in marshes, Norfolk, Battersea, &c.

6. *bimaculatus Fab.*

Piceous, head punctured, thorax coarsely punctured, cinerous with hairs, 2 ochreous lines down each side; elytra mottled with cinereous hairs, granulated, with shallow striæ and a whitish dot on each beyond the middle: antennæ and legs more or less castaneous.

Rare, on aquatic plants, Cumberland, Bristol, Norfolk, Wimbledon Common, and on the borders of Crwmllyn Bog, near Swansea, upon nettles and on the barren sand-hills; Mr. Dillwyn and Mr. Jeffreys.

For specimens of *Listera cordata*, Least Twayblade, I am indebted to J. Walton, Esq., who gathered them near Harrowgate.



HYPERA FASCICULOSA.

ORDER Coleoptera. FAM. Curculionidæ *Lat., Leach.**Type of the Genus Curculio punctatus Fab.*HYPERA *Germ.* Rhynchænus *Gyll.* Curculio *Linn., Fab., Lat., Marsh., Herbst.*

Antennæ inserted on each side the rostrum, beyond the middle, geniculated, longer than the rostrum, pilose, 12-jointed, 1st joint long clavate, 2nd and 3rd short clavate, 3 following globose, 7th and 8th transverse, the remainder forming a conical pubescent club (6).

Labrum none.

Mandibles irregular in form, with an obscure tooth near the apex and a notch near the base, furnished with only one bristle on the external edge (2).

Maxillæ ciliated on the internal edge with hair and curved spines.

Palpi not longer than the maxillæ 3-jointed, 1st and 2nd joints robust quadrate, 3rd short conic (3).

Mentum obtrigonal, angles rounded, a long bristle on each side.

Palpi longer than the mentum, robust, 1st joint subquadrate, with a long bristle on the outside, 2nd subovate, 3rd slender subovate (4).

Head globose produced into a robust rostrum, slightly curved, somewhat wedge-shaped (7*). Eyes lateral placed at the base of the rostrum (7). Thorax suborbicular, truncated before. Coleoptra large, convex, twice as broad as the thorax, somewhat conical. Wings 2. Scutellum minute. Thighs sub-clavate, notched beneath near the apex. Tibiæ cylindric truncated, anterior curved. Tarsi 4-jointed, 3rd joint bilobed, 4th the longest (5, a fore leg).

FASCICULOSA *Gyll. Ins. Suec. 3. 107. 37.*—fasciculatus *Herbst.*—Dauci *Oliv. ?*

Minutely punctured, covered with scales. *Antennæ* ferruginous, fuscous at the apex. Head brown; upper surface of rostrum, beneath the eyes (which are black) and a line on the crown of the head pale yellowish. Thorax brown, variegated, a line down the centre, one on each side and a spot on each side pale ochre. Scutellum whitish. Elytra obscurely punctured in striæ, brown mottled. Suture ochraceous spotted alternately on each side with black; a large semicircular spot on each side (margined with dark brown), a line near the margin and smaller spots near the apex pale ochre. Legs reddish brown, variegated with hoary pubescence.

Obs. There are strong varieties of this species, some inclining more to black with the spots and markings white instead of ochraceous.

In the Author's and other Cabinets.

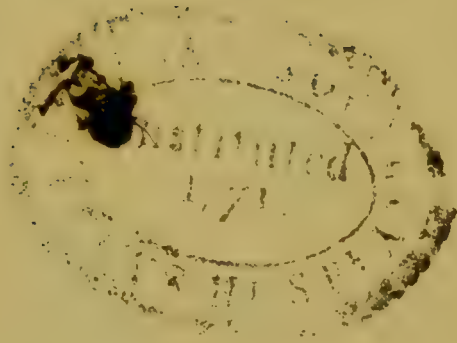
THE genus *Hypera* contains the following British insects, many of which are exceedingly common.

1. *H. punctata* *Fab.*
2. *fasciculosa* *Gyl.*
3. *picipes* *Marsh.*
4. *fusco-cinerea* *Marsh.*
5. *Arundinis* *Fab.*, *Panz.* 19. 11.—*Sii* *Leach* MSS.
6. *Polygoni* *Fab.*
7. *Arator* *Linn.* *Polygoni* *Panz.* 19. 10.
8. *palustris* *Leach.*
9. *Pollux* *Fab.*
10. *sublineata* *Kirby.*
11. *Miles* *Payk.*
12. *murina* *Fab.*
13. *postica* *Gyl.*
14. *Plantaginis* *Fab.*
15. *Viciæ* *Gyl.*
16. *variabilis* *Gyl.*
17. *Trifolii* *Gyl.* *bitæniatus* *Don.* 15. 524 ?
18. *Rumicis* *Linn.* *Acetosæ* *Panz.* 42. 9.
19. *nigrirostris* *Fab.*, *Panz.* 36. 14.
20. *straminea* *Marsh.*
21. *villosula.*

The larvæ of those species whose economy is known, feed upon plants ; and many of my readers no doubt have observed upon plants growing near the water's edge, small coarse oval cocoons, like gauze, formed of loose threads which will allow us frequently to see a beetle inside, that generally is the *Curculio Rumicis* *Linn.* During last July I found several of these cocoons on the underside of the leaves of the plant figured, in a cornfield at the base of Ben Lawers, which shortly hatched and produced specimens of *Curculio Arator* *Linn.*

The handsome species selected for the plate has been taken in Norfolk, but is by no means common. In May and June the individuals of this genus may be found in sandy places, gravel pits, and upon white walls and substances heated by the sun, as well as upon various plants.

Galeopsis versicolor (Large-flowered Hemp-nettle), above alluded to, accompanies the insect.





OTIORHYNCHUS MAURUS.

ORDER Coleoptera. FAM. Curculionidæ—Otiorthynchides, Schö.

Type of the Genus, Curculio tenebricosus Herb.

OTIORHYNCHUS Germ., Schö., Curt.—Brachyrhinus Lat.—Pachygaster Dej.—Curculio Linn., Fab., Gyll.

Antennæ inserted in small cavities on each side of the apex of the rostrum, longer than the head and thorax, often slender, geniculated, 12-jointed, basal joint as long as the head, clavate, the remainder pubescent, 2nd long, 3rd longer and a little slenderer, 5 following obovate, the remainder forming an elongate-ovate club, of which the basal joint is the longest (6).

Mandibles large, concavo-convex, subtrigonal-ovate, outer margin sinuated (2).

Maxillæ terminating in an ovate lobe armed with strong linear spines, beneath which is a long bunch of conniving bristles: outside produced into a horny lobe. *Palpi* comparatively long, triarticulate, basal joint a little the largest, ovate-truncate, 2nd oblong, 3rd the smallest, elongate-ovate (3).

Mentum rather large and obovate, producing 4 large bristles before. *Palpi* very short and stout, scarcely projecting beyond the mentum, biarticulate, basal joint transverse, bristly, 2nd semiorbicular (4).

Rostrum short and very stout, porrected, dilated at the apex, with a short and broad groove on each side to receive the antennæ (7 upper side, * the profile): head broadest at the base, semioval: eyes rather small, remote, orbicular, slightly convex, not touching the Thorax, which is as long as the head and rostrum, and nearly twice as broad in the middle, convex, orbicular or ovate, the anterior and basal margins truncated: scutellum minute. Elytra connate, thrice as long as the thorax and twice as broad, convex and ovate, the apex sometimes conical. Wings none. Legs nearly equal: thighs clavate, simple or dentated: tibiae flexuose, the apex pectinated, dilated and trigonal, except in the anterior, in which they are merely produced internally; a series of short spines on the inside: tarsi 4-jointed, very pilose beneath, basal joint the longest, 2nd short, both obtrigonal, 3rd bilobed, 4th slender and clavate: claws rather small curved and acute (5, a fore leg).

MAURUS Gyll.—Curt. Guide, Gen. 372. 16.

Shining black or piceous, with short scattered whitish depressed bristles; head and rostrum rugose, the centre concave, with a ridge down the middle: thorax coarsely but regularly granulated: elytra slightly wrinkled and punctured, with catenulated striae, and numerous small faint patches formed of yellowish pubescence: antennæ and legs more or less castaneous.

In the Author's and other Cabinets.

Of all the beetles that are injurious to the gardener, none perhaps are more destructive than some of the Otiorthynchi, and amongst them *O. picipes* is eminently so: the mischief is done

by this species during the night, when they come out to feed, and in the day they secrete themselves in chinks in the walls, under stones, bricks, clods of earth, &c. They are particularly injurious to wall fruit, and also to vines in hot-houses; but it is *O. sulcatus*, Mr. F. Walker informs me, which injures the vines in Lancashire, by eating the bark, and the larvæ feed upon the roots.

Dr. Lindley, I think, recommended some years since that the boughs of infected trees should be brushed or shaken over sieves in the night, and that the beetles thus collected might be immediately killed in hot water, and, if I mistake not, large quantities have been thus obtained in nursery grounds in Norfolk.

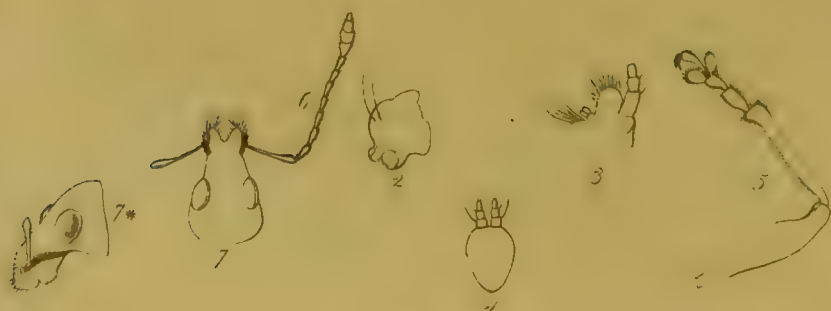
O. tenebricosus is another destructive species, as will be seen by the following extract from a note addressed to Mr. Dale by the Rev. J. M. Colson, rector of Puddle Hinton: "I have sent you a few specimens," he says, "of a beetle hitherto unknown to any of my neighbours, that has appeared this summer in myriads in the gardens of Lord Eldon at Encombe, destroying the roots of every vegetable and smaller plant, such as strawberries, raspberries, gooseberries and currants." I presume it was the larvæ that did the mischief, which afterwards produced the beetles.

I well remember finding some grubs in a strawberry bed a few years since which cut through the runners, but at that time I suspected they were dipterous, and now have no means of ascertaining if they belonged to the Otiorhynchi. I have little doubt that it is the larva of *O. picipes* also, which kills the auriculas and polyanthus, Dr. Maclean informs me, in his garden at Colchester, which they effect by eating through the roots close to the leaves.

Fortunately the Otiorhynchi are destroyed by the *Cercerides* (fol. 269.), and thus Nature has put a check upon them. In the month of August last, when I was at Boulogne, Mr. Clifton showed me innumerable holes in the gravel walks of his garden formed by *Cerceris læta*? and at that time a considerable number of females were entering them: on digging up one of the nests we found five or six specimens of *O. scabrosus* at the depth of nearly a foot, which had been buried by the *Cerceris* as food for its larvæ, and nothing but the shells were left. Mr. W. Clifton informed me that he had observed large specimens of the *Cerceris* at an earlier period, burying a larger species of *Curculio*. Mr. Dale has also detected them carrying *O. sulcatus* alive between their legs.

There are nineteen species of Otiorhynchi recorded in the Guide, and the one figured I found under stones on mountains, I believe, in the vicinity of Ambleside as well as in Scotland, in June and July.

The Plant is *Fragaria vesca*, Wood Strawberry.



POLYDRUSUS SPECIOSUS.

ORDER Coleoptera. FAM. Curculionidæ *Lat., Leach.*

Type of the Genus, Curculio cervinus Linn.

POLYDRUSUS *Germ., Dej., Ste.*—Polydrosus & Phyllerastes *Schö.*—Phyllobius *Schö.*—Brachyrhinus *Lat.*—Curculio *Linn., Fab., DeG., Mar., Don.*

Antennæ inserted on the sides of the rostrum near to the apex, as long or longer than the head and thorax, geniculated, slender and pubescent; 12-jointed, basal joint long and clavate, 2nd rather shorter than the 3rd which is longer than any of the following, all of them being sub-obconic, 9th and remainder forming a fusiform club, the 10th joint being the broadest, the apical joint minute (6).

Labrum none.

Mandibles subquadrate convex and rounded externally, producing 2 or 3 bristles, concave on the inside (2).

Maxillæ short, terminated by a rounded lobe ciliated with strong bristles, and 2 teeth at the base, beneath which are a few long hairs. *Palpi* longer than the maxillæ, triarticulate, basal joint the longest, 2nd subquadrate, 3rd a little slenderer, attenuated and truncated (3).

Mentum obovate, smooth. *Palpi* short, triarticulate, basal joint most robust, quadrate, 2nd small quadrate, 3rd slender, oval (4).

Labium none.

Head exserted, subcylindric, the Rostrum short narrowed and nutant, with a groove on each side meeting beneath (7*). Clypeus deeply emarginate and ciliated (7). Eyes lateral, suborbicular, not very prominent. Thorax cylindric broader than the head but narrowed anteriorly, short and truncated. Scutellum minute, subovate. Elytra twice as broad as the thorax subovate, the shoulders obtuse, the apex slightly acuminate. Wings ample. Legs rather slender. Thighs incrassated, sometimes toothed. Tibiæ somewhat compressed and dilated at the apex. Tarsi not so long as the tibiæ, spongy beneath, and pilose; 4-jointed, basal joint as long as the terminal one, 2nd rather shorter, 3rd perfectly bilobed, 4th clavate. Claws small and bent (5).

SPECIOSUS *Rudd MSS.*—*Steph.*

Male much narrower than the female, black, shagreened with bright green scales tinged with yellow. Eyes black, with a small cleft between them. Elytra boat-shaped, with 10 strong and punctured channels on each. Antennæ slender, testaceous, the club black. Feet deep ochraceous, the thighs and base of the tibiæ partially clothed with aureous green scales.

In the Cabinets of Mr. Rudd and the Author.

THE laborious investigations of Shönherr are of the first importance in studying the Curculionidæ; but as his distinctive

characters frequently appear to me to be too slight, I shall feel justified in not adopting all his genera. *Polydrusus* and *Phyllobius* are principally distinguished by the grooves to receive the antennæ, which in one are united beneath; yet there are no less than twenty-seven genera besides subgenera that intervene.

The following arrangement of our British species is taken from the Systematic Catalogue; but the synonyms, with two or three exceptions, are copied from Gyllenhal.

POLYDRUSUS.

1. *amaurus* Marsh.
2. *confluens* Kirby.
3. *marginatus* Ste.—On the 6th of May, 1821, I found this insect in profusion on the Juniper, in Birch-wood.
4. *pulchellus* Ste.
5. *cervinus* Linn.—*Iris* Fab.—*messor* Herb.—*griseo-æneus* DeG.—*maculosus* Herb. var.—On nettles, in June.
6. *melanotus* Kirby.
7. *sericeus* Gyl.—*squamosus* Germ.—*splendidus* Herb.—May and June, hedges.
8. *micans* Fab.—*Pyri* Linn. *Faun. Suec.*—Don. 4. pl. 121. f. 3 & 4.
9. *flavipes* DeG. Mar.—*sericeus* Herb.—On *Betula alba*.
10. *speciosus* Curtis Brit. Ent. pl. 278.
11. *undatus* Fab. Oliv. n. 83. pl. 35. f. 553. *tereticollis* DeG.—*albo-fasciatus* Herb.—*seleneus* Marsh.
12. *fulvicornis* Fab. Gyl.—*ruficornis* Bonsd.
13. *oblongus* Linn.—Panz. 19. f. 15.—*floricola* Herb.—*rufescens* Mar.—May and July, black-thorns in hedges.

PHYLLOBIUS.

14. *Pyri* Linn. Syst. Nat.—Sam. pl. 2. f. 19.—Panz. 107. f. 4. *æruginosus* Bonsd.—June, hazel-bushes, Norfolk.
15. *cæsius* Marsh.
16. *Alneti* Fab.—*cnides* Mar.—May and June, nettles.
17. *maculicornis* Germ. Gyl.
18. *argentatus* Linn.—Don. 3. pl. 107.—*Urticæ* DeG.—May to August, oaks and hazel.
19. *Mali* Fab.—*Padi* Bonsd. var.—*fulvipes* Fab. var.—Nettles, May to August.
20. *Pomonæ* Oliv. 5. n. 83. pl. 35. f. 548.
21. *uniformis* Mar.—End of May, hazels, Norfolk.
22. *albidus* Ste.—*canescens* Leach.
23. *parvulus* Fab. Gyl.—*fulvipes* Payk.—*argentatus* Bonsd. var.
24. *minutus* Ste.
25. *viridicollis* Fab.—Pz. 19. 13.—On *Artemisia campestris*.

The beautiful species figured, was discovered by the Rev. G. T. Rudd, in a wood near Kimpton, Hants, in June, and he has politely presented me with specimens. The plant *Convallaria multiflora* (Common Solomon's Seal), is from the same locality.



Cur. by J. C. G. & J. C. G.

LIXUS ANGUSTATUS.

ORDER Coleoptera. FAM. Curculionidæ.—Eirrhinides, *Schön.*

Type of the Genus, Curculio angustatus Fab.

LIXUS *Fab.*, *Schön.*, *Curt.*—Phoxus *Billb.*—Curculio *Linn.*, *Marsh.*

Antennæ rather short, inserted on the side of the rostrum, considerably beyond the middle, geniculated, clavate, 12-jointed, basal joint very long and clavate, 2nd and 3rd somewhat obovate-elongate, 4 following cup-shaped, the remainder forming a pubescent fusiform club of 5 joints (6).

Labrum? oblong, membranous, somewhat quadridentate at the apex, which is pubescent and ciliated (1).

Mandibles subtrigonal or quadrate, with 2 obtuse teeth on the inside (2).

Maxillæ formed of a large rounded corneous lobe, with a few blunt tubercles on the margin. *Palpi* very short and stout, triarticulate, basal joint very broad and short, 2nd somewhat cup-shaped, 3rd subovate with a gland at the apex (3).

Mentum oblong, a little dilated at the base and apex, the latter bilobed. *Labium* corneous, subquadrate, rounded at the base.

Palpi short stout and triarticulate, basal joint the largest, producing 3 strong bristles outside, 3rd joint minute subovate (4).

Rostrum *nearly as long as the thorax, stout, subcylindric, a little curved, smooth, thickened at the apex, with an oblique groove on each side to receive the antennæ.* Head *small and short, but not immersed to the eyes which are small, lateral and ovate, but not prominent* (7). Thorax *cylindric-conic, truncated before, bisinuated at the base: scutellum very minute.* Elytra *cylindric-linear, 3 or 4 times as long as the thorax and but little broader, sometimes attenuated and acuminate at the apex.* Wings *ample.* Legs, *anterior approximating at the base: thighs rather long and capitate, anterior sometimes with a tooth beneath: tibiæ very short and stout, with a curved claw inside at the apex, strongest in the anterior pair: tarsi as long as the tibiæ, spongy beneath, 4-jointed, basal joint attenuated at the base, longer than the 2nd which is turbinate, 3rd cordate and bilobed, 4th slender clavate: claws curved, acute* (5, *a fore leg*).

Obs. *The trophi are taken from L. Bambalio? Germar, and I ought to observe that I obtained a very imperfect view I fear of the labial palpi.*

ANGUSTATUS *Fab.*—*Curt. Guide, Gen. 380. n. 4.*

Black, clothed with minute yellowish hairs; rostrum stout, head thickly punctured, with a channel between the antennæ, which are castaneous at the base, with a small fovea between the eyes: thorax rugose and uneven, the sides yellow with pubescence: elytra much broader than the thorax and three times as long, somewhat ochreous and spotted with pubescence, wrinkled transversely, with 10 lines of oval punctures on each meeting at the apex, which is rounded, the interstices minutely punctured; legs clothed with hoary or yellowish pubescence.

In the Cabinets of the British Museum, Mr. Pickering, &c.

THE elongated narrow and cylindric form of these insects distinguishes them from all the neighbouring genera. The following are the species recorded as British.

A. Elytra acuminated at the apex, sometimes gaping.

3. *productus* Mars. MSS.—*paraplectica* Panz. 6. 15?—*turbatus* Gyll.?

Length $6\frac{1}{2}$ to $8\frac{1}{2}$ lines. Subfusiform, thickly covered with minute punctures and yellowish hairs; antennæ castaneous, the club black, 2nd joint stouter and shorter than the 3rd; a slight ridge down the rostrum with a puncture between the eyes; thorax with large scattered punctures and two yellowish stripes extending down the head and rostrum; elytra terminated by two stout straight acute spines, each having ten deeply punctured lines united in pairs at both extremities, the external margin yellow with pubescence.

I met with specimens the 18th July upon the *Phellandrium* at Whittlesea Mere. Mr. Scales took it in August in ditches on the marshes at Halvergate in Norfolk, and it occurred in abundance a few years since in a marsh near Fulham.

2. *paraplecticus* Linn.—*Don.* 10. 348. 2.—*Phellandrii*, *De Geer*.

“Fuscous-cinereous, pubescent, powdered greenish, elytra mucronated and gaping at the apex, antennæ ferruginous, club fuscous.” *Gyll.*, who adds,—the apical spines are curved and acute.—This species is found on the *Phellandrium aquaticum* in July. Linnæus says, “the larva lives in the stalk and is often sticking to it under water. It is supposed to cause the Paraplegia in Horses.” It has been found in the Isle of Ely, and in a marsh near Carlisle.

B. Elytra unarmed or rounded at the apex.

1. *Ascanii* Linn.?—*Panz.* 42. 13.

Length $5\frac{1}{3}$ lines. Slender, cylindric, clothed with very fine hoary pubescence, forming a yellowish margin to the sides of the thorax and elytra; head and thorax thickly punctured, with a deep fovea between the eyes: elytra obscurely spotted with grey hairs, having ten punctured striæ on each.

Mr. Sparshall is said to have a specimen: the foreign ones that I possess have not acuminated elytra, in which respect they agree with the Linnean description.

4. *angustatus* Fab.—*Curt. Brit. Ent. pl.* 542.—*lateralis* *Step. var.*?

This insect is often covered with the pollen of flowers, giving it a yellow or orange colour, especially on the sides.

It was first met with on aquatic plants near Shoreham, also at Hickstead, Sussex, in July, and at Sydenham by Mr. Inghall. The specimen figured and two others were taken by Chas. Pickering, Esq., the middle of last September, near the Lover's Seat, Hastings: they were swept off grass. I saw a very fine specimen on the leaf of a broad-bean near Blaye in the South of France the 9th of June.

Sisymbrium Sophia (Flix-weed) is represented in the Plate.



col. ab. leg. J. Kuntze May 1 1898

MAGDALIS CARBONARIUS.

ORDER Coleoptera. FAM. Curculionidæ Lat., Leach.

Type of the Genus Curculio Cerasi Linn.

MAGDALIS Germ., Gyll.—Thamnophilus Schön.—Rhinodes Dej.—Rhina Oliv., Meg.—Rhynchænus Fab., Gyll.—Curculio Linn., Marsh.

Antennæ inserted on each side the rostrum, nearer the apex in the male (6) than female (6a), slightly geniculated, 11-jointed, basal joint very long reaching to the eyes when at rest, 7 following short, becoming larger and more globose towards the extremity, the remainder forming an ovate conic pubescent club (figs. 6, and 6a).

Labrum none.

Mandibles rhomboidal, notched on the external side, producing 3 teeth at the extremity, the apical one being the smallest, the others broad (2).

Maxillæ short, forming internally a long membranous pubescent and ciliated lobe. *Palpi* short rather robust, triarticulate, 1st and 2d joints transverse, 3d oval (3).

Mentum suborbicular. *Palpi* as long as the mentum, triarticulate, 2 first joints transverse, 3d minute ovate (4).

Head rather broad at the base, the rostrum cylindric, arcuated shorter and broader in the males (7) than in the females (8). Eyes approximating especially in the females. Thorax subquadrate. Scutellum distinct. Elytra elongated, subcylindric, convex, much broader than the thorax. Wings ample. Thighs frequently spined or tubercled. Tibiæ producing a strong claw at the apex. Tarsi 4-jointed, basal joint rather the longest, 3d bilobed, 4th slender. Claws short robust (5, a fore leg).

Obs. the Trophi are figured from *M. aterrimus* Fab., the other parts are from *M. carbonarius*.

CARBONARIUS Linn. Faun. Suec. n. 614.

Black, antennæ pubescent and somewhat fuscous towards the apex: more robust in the male than female. Head and rostrum smooth and minutely punctured, the latter as long as the head and thorax in the female. Thorax depressed, ovate-truncate granulated, with a shining line down the centre, posterior angles acuminate, the sides produced anteriorly and crenated. Elytra shining, minutely wrinkled, with very deep crenated striæ. Thighs dentated beneath (7, head of the male; 8, of the female).

In the Author's and other Cabinets.

THE few species contained in this genus have been described under various names so frequently transposed, that their synonyms have been very much confused; and as even Gyllenhal has changed his opinion since the publication of his 3d vol.,

in consequence of the observations of Germar and Schönherr, it may be as well to give as complete a table as we can of the 4 species that inhabit Britain, especially as we do not entirely coincide in the opinion of Germar.

1. M. Cerasi Linn., Gyll., Germ., Schön.—carbonarius Panz. 42, 18.—Armeniacæ Fab.

Found in June upon the leaves of *Prunus Padus* and *Cerasus*, as well as the Pear, eating the epidermis and marking the leaves with spots.

2. M. Carbonarius Linn.—Gyll. 3, 185, 101. fem.—Oliv.? v. 5. pl. 34. f. 518.—aterrimus Herbst. male.—atramentarius Marsh. male. Germ., Schön.—atratus Gyll. 3. 187. 102. male.

June: on Plum, Birch, and Nut trees. Of this insect, which is by no means common, I took a pair upon a Hazel-tree near Ambleside the 19th of last June; and there is no doubt but the *C. atratus* of Gyllenhal is the male of his *C. Carbonarius*, which does not appear to be different from the *C. Carbonarius* of Linnæus: the insect figured is a female.

3. M. Stygius Marsh., Gyll., Schön.—Cerasi Oliv. 5. tab. 22. f. 309.—Herbst. Clairv.?—aterrimus? Fab.

June: Cherry and Sloe trees in hedges. The Marshamian name has been retained, since it is doubtful whether it be the *C. aterrimus* of Fabricius; for it certainly is not the *C. aterrimus* of Linnæus to which he refers.

4. M. Pruni Linn., Fab., Gyll., Oliv., Marsh., Germ., Schön.—erythroceros Herbst.—incognitus Herbst.—ruficornis Schr.

The larva of this species is said to be gelatinous and limaciform (viz. like a Slug), and is found as well as the Beetle upon the leaves of *Prunus Padus* and *Cerasus*, the latter of which species, the Cherry-tree, accompanies the insect.



Plate type: S. Carter, London. May 1820

APION DIFFORMIS.

ORDER Coleoptera. FAM. Curculionidæ *Lat., Leach.*

Type of the Genus Curculio frumentarius Linn.

APION *Herbst., Lat., Kirby., Germ., Gyll.*—*Rhinomacer Geoff., Clairv.*
—*Attelabus Fab., Oliv.*—*Curculio Linn., Fab., Marsh.*

Antennæ inserted beneath the nasus and before the eyes, not geniculated, and rather long, 11-jointed, the basal joint being the longest, the remainder varying in length, the 2 or 3 last forming a club more or less fusiform.

Labrum none.

Mandibles horny, convex, bent, tridentate, the centre tooth forming the apex, a small one arising on the outer and a very strong one on the inner side (2).

Maxillæ broad compressed, forming a large membranous pubescent and ciliated lobe on the internal side. *Palpi* very short, inserted on the external shoulder, 3-jointed, 1st and 2nd joints quadrate, 3rd scarcely visible (3).

Mentum obovate-quadrate, horny, producing a bristle on each side. *Palpi* extremely minute and indistinct, apparently 3-jointed.

Lip incurved, membranous, pubescent (4).

Head elongated into a rostrum (8). Eyes not very prominent nor touching the Thorax which is usually broader than the base of the head. Scutellum very minute, triangular. Elytra convex-ovate, often twice as broad as the thorax (10). Legs long. Thighs robust, subclavate. Tibiæ long not spined. Tarsi 4-jointed, basal and terminal joints the longest, 3rd bilobed. Claws distinct (5).

DIFFORMIS *Germ. Mag.* 3. 46. 2.

Shining, blackish green. Rostrum long, the antennæ inserted beyond the middle, fulvous, the base and apex black, 2nd joint very minute, 3rd transverse compressed cup-shaped, 4th robust scutiform compressed; 4 following of nearly equal length, the 5th and 6th being much more robust than the 7th and 8th, the remainder forming a club, the 9th being turbinate and distinctly articulated, the other 2 being firmly united and conical (6). Head coarsely punctured between the eyes, the basal collar smooth. Thorax subquadrate, narrowed anteriorly, coarsely punctured, with a channel on the back, deepest at the base. Elytra very convex, narrowed towards the apex, with 6 deep, loosely punctured striæ on each. Epigastrium, with a bifid tooth (11). Legs fulvous, base and apex of thighs and base of anterior tibiæ black with 2 obscure spines at the apex; 4 posterior tibiæ (excepting a space above the middle) and the tarsi black. Anterior tarsi with the basal joint long and very much produced internally at the apex which is brown (5): posterior tibiæ greatly dilated at their apex as well as the tarsi, especially the basal joint.

In the Cabinets of Mr. Haworth, Mr. Haliday, and the Author.

THE 9th and 10th vols. of the *Linnean Transactions*, the 2nd and 3rd vols. of *German's Magazin*, and the 3rd and 4th parts of *Gyllenhal*, contain valuable information relating to the genus *Apion*, which comprises the following British species, arranged by German nearly in the succeeding order.

A P I O N.

- | | |
|---|---|
| <p>I. Rostrum porrected.
 A. Rostrum subulated.</p> <ol style="list-style-type: none"> 1. <i>Pomonæ F.</i>—<i>cærulescens K.</i>—<i>glaber Marsh.</i> 2. <i>subulatum Kirby.</i> 3. <i>Craccæ L. K.</i>—<i>ruficorne K.</i> 4. <i>Platalea Germ.</i> 5. <i>Spencii K.</i> <p>B. Rostrum cylindric or filiform.
 a. Antennæ inserted towards the base.
 1. Legs dark.</p> <ol style="list-style-type: none"> 6. <i>vicinum K.</i>—<i>Loti Gyll.</i>—<i>incrassatum Ger.</i> 7. <i>pusillum Ger.</i>—<i>atomarium? K.</i> 8. <i>pubescens Kirby supp.</i> 9. <i>confluens Kirby.</i> 10. <i>Hookeri Kirby.</i> 11. <i>lævigatum Kirby.</i> 12. <i>æneum F.</i>—<i>chalceus M.</i>—<i>cyaneus Pz.</i> 13. <i>Curtisii Kirby's Mss.</i>—<i>aciculare? Ger.</i> 14. <i>Onopordi Kirby.</i> 15. <i>Carduorum K.</i>—<i>Sorbi M.</i>—<i>gibbirostre Gyll.</i> 16. <i>radiolus K.</i>—<i>oxurum K.</i>—<i>aterimus M.</i> <p>2. Legs pale.</p> <ol style="list-style-type: none"> 17. <i>Malvæ Fab. K.</i> 18. <i>vernale F.</i>—<i>Lythri Pz.</i>—<i>concinus M.</i> 19. <i>rufirostre F. K.</i>—<i>Malvarum K.</i> 20. <i>pallipes K.</i>—<i>geniculatum Ger.</i> 21. <i>flavifemoratum K.</i>—<i>Trifolii M.</i>—<i>apricans Herb.</i> <p>b. Antennæ inserted at the middle.
 1. Legs pale.</p> <ol style="list-style-type: none"> 22. <i>Viciæ Pk. K.</i>—<i>Trifolii M.</i>—<i>difficile H.</i> 23. <i>obscurum M. K.</i> 24. <i>difforme Ger. Nob.</i> 25. <i>varipes Germ.</i> 26. <i>lævicolle K. supp.</i> 27. <i>flavipes F. K. Pz.</i> 28. <i>æstivum Ger.</i> 29. <i>assimile K.</i> 30. <i>nigritarse K.</i> 31. <i>frumentarium L. Pz.</i>—<i>sanguineus DeG. Gyll.</i> 32. <i>hæmatodes K.</i> | <p>2. Legs dark.
 a. Body oblong.</p> <ol style="list-style-type: none"> 33. <i>Seniculus K.</i>—<i>plebeium Ger.</i>—<i>tenuius? Ger.</i> 34. <i>civicum Ger.</i> 35. <i>Loti K.</i> 36. <i>tenuæ K.</i> 37. <i>brevirostre K.</i>—<i>humile Ger.</i>—<i>curtirostre Ger.</i> 38. <i>minimum Herb.</i>—<i>velox K. supp.</i> 39. <i>ebeninum K.</i> 40. <i>scutellare K. supp.</i> 41. <i>Kirbii Germ.</i> 42. <i>Meliloti K.</i> 43. <i>cyaneum Herb.</i>—<i>violaceum K.</i> 44. <i>Hydrolapathi M. K.</i> 45. <i>marchicum K.</i> 46. <i>Rumicis K.</i> same as last. 47. <i>affine K.</i> 48. <i>virens Herb. K.</i>—<i>æneo-cephalum Gyll.</i> 49. <i>Astragali Pk. K.</i> 50. <i>simile K. supp.</i> 51. <i>glabratum Ger.</i> 52. <i>vorax K.</i>—<i>villosulus & fuscicornis M.</i> <p>β. Body subglobose.</p> <ol style="list-style-type: none"> 53. <i>filirostre K.</i> 54. <i>Pisi F.</i>—<i>striatum M. K.</i> 55. <i>immune K.</i> 56. <i>atratum Germ.</i> 57. <i>unicolor K.</i>—<i>Æthiops Gyll.</i> 58. <i>Gyllenhalii K.</i> same as last. 59. <i>subsulcatum M. K.</i> 60. <i>Ononis K.</i> 61. <i>Ervi K.</i> 62. <i>Lathyri K.</i> var. of last. 63. <i>pavidum Germ.</i> 64. <i>Spartii K.</i> 65. <i>foveolatum K.</i>—<i>cyaneum Gyll.</i> 66. <i>punctifrons K.</i> 67. <i>punctigerum Ger.</i>—<i>punctiger Pk.</i>—<i>sulcifrons K.</i> 68. <i>Limonii K.</i> 69. <i>Sorbi F. Pz.</i>—<i>lævigatus Pk.</i>—<i>viridescens M.</i> <p>II. Rostrum nutant.</p> <ol style="list-style-type: none"> 70. <i>Genistæ K.</i> 71. <i>fuscirostre F.</i>—<i>melanopum K.</i> 72. <i>Ulicis M. K.</i> |
|---|---|

One specimen of the curious insect figured, was taken on paling near the Croydon road; and another in a furze-bush on Blackheath, Nov. 10th and 13th, by Mr. A. H. Haliday, to whom I am indebted for my specimen.

The plant is *Brassica campestris* (Field Cabbage or Colewort).



0.12



RHYNCHITES SIMILIS.

ORDER Coleoptera.

FAM. Curculionidæ.

*Type of the Genus, Curculio Betulæ Linn.*RHYNCHITES *Herb., Gyll., Shön., Curt.*—Attelabus *Fab.*—Curculio *Linn.*

Antennæ inserted a little beyond the middle on the sides of the rostrum, not longer than the head straight and clavate; 11-jointed, 2 basal joints ovate, stouter than the 3 following which are elongate-ovate, 6th a little stouter ovate-truncate, 7th cup-shaped, the remainder forming a long stout subperfoliate velvety club, 8th joint cup-shaped, smaller than the 9th and 10th which are more quadrate, 11th large and ovate-conic (6).

Mandibles with a very irregular outline, curved, the apex forming a stout hook, the internal margin deeply concave, the outside convex and sinuated (2).

Maxillæ subquadrate, the inner margin convex and ciliated, terminal lobe subovate and ciliated with long curved hairs, bristly outside. *Palpi* stout subconic, triarticulate, basal joint broad and bowl-shaped, 2nd similar but smaller, 3rd the smallest and conical (3).

Mentum very large, subquadrate, the sides towards the base angulated, the anterior angles lobed with a cavity to receive the *Palpi*, which are short stout and triarticulate, 2 basal joints bowl-shaped, 1st the largest, 2nd producing a long bristle outside, 3rd small ovate (4).

Head *ovate*, rostrum *nearly twice as long or longer, inflected in repose, stout, slightly curved, dilated at the apex*: eyes *remote, placed at the base of the rostrum*. Thorax *orbicular, broadest at the base which is slightly produced over the scutel, sometimes with a porrected spine on each side in the male (T): scutel transverse-ovate*. Elytra *broad short ovate, truncated at the base, shoulders projecting*. Wings *very ample*. Abdomen *not quite concealed by the elytra*. Legs *rather stout*: thighs *moderate simple*: tibiæ *slightly thickened at the apex, not spurred or spined*: tarsi *spongy beneath, 4-jointed, basal joint obovate-truncate, 2nd broader hemispherical, 3rd bilobed, 4th clavate*: claws *strong (5, a fore leg)*.

SIMILIS *Curt. Guide, Gen. 385. No. 14.*

Bright deep blue, shining, pubescent; head punctured, sparingly on the crown, rostrum broad and not longer than the head, coarsely punctured with 2 or 3 ridges at the base, the apex cupreous; eyes very prominent; club of antennæ black; thorax oval, truncated, strongly and rather thickly punctured; elytra twice as broad with deeply punctured striæ and rows of smaller points between them; tibiæ and tarsi æneous-black the hairs brownish.

In the Author's Cabinet.

THE Rhynchites live upon the leaves of plants, but are never very injurious in England; in the wine countries however those beautiful species *R. Betulæ* and *Bacchus* make sad ra-

vages amongst the vines; the former also lives on the Birch, Alder, and Hazel, and the latter upon the Cherry and Sloe. These beetles, according to the Baron Walckenær, cut the stalks of the leaves, making a cavity to receive their eggs; and the larvæ roll up the leaves to live in, and feed upon the budding grapes.

Natural as this genus is, the rostrum varies greatly in length in many species, and there are differences in the form of the head on which sections may be founded: the following have been recorded as natives of Britain, and many of them inhabit the White-thorn in May and June.

* *Head ovate, broad at the base.*

1. *minutus* *Herb.* 2. *æneovirens* *Mars.*—*Fragariæ* *Schö.?*

3. *atrocæruleus* *Ste.*

4. *cupreus* *Linn.*—*Panz.* 20. 9.—*punctatus* *Herb.*

Rare, taken at Darent and Epping, and Mr. Heysham has found it near Carlisle.

5. *cæruleocephalus* *Fab.*—*Panz.* 94. 6.

Taken, I believe, by Mr. Griesbach near Windsor.

6. *æquatus* *Linn.*—*Don.* 4. *pl.* 121. *f.* 1. & 2.—*Pz.* 20. 8.

7. *Bacchus* *L.*—*Don.* 1. *pl.* 34. *f.* 1.

Taken near Birch Wood and at Crayford in Kent, on the Black-thorn, by the late Mr. Marsham, and at Barham by Mr. Kirby.

8. *Populi* *L.*—*Pz.* 20. 7.

June and September, on Aspen and Poplars, Coomb-wood and Norfolk.

9. *Betulæ* *L.*—*Don.* 3. *pl.* 74.—*Betuleti* *F.*—*Pz.* 20. 6.—*nintens* *Mar. var.*

10. *interpunctatus* *Wilk.*

11. *Alliariæ* *L.*—*nanus* *Pk.*

12. *angustatus* *Leach.*

13. *cæruleus* *DeG.*—*Alliariæ* *F.*

14. *confinis* *Ste.*

15. *longirostris* *Ste.*

16. *rugipennis* *Ste.*

17. *pubescens* *Herb.*—*Oliv.* 5. *No.* 34. *pl.* 2. *f.* 34.

May, Hazel and Oak, Letheringsett, Norfolk.

18. *cavifrons* *Chev.*—*Schö. Curc.* v. 1. *p.* 226.

** *Head obovate: eyes very prominent.*

19. *ophthalmicus* *Ste.*—*sericeus* *Herb.?*

20. *similis* *Curt. Brit. Ent. pl.* 642. The obovate head, oval thorax, and copper-coloured apex of the rostrum distinguish this species, which looks at first sight like a small variety of *R. pubescens*.

I have 4 specimens taken by myself, I believe at Coomb-wood.

21. *cylindricus* *Kirb.* 22. *lævicollis* *Ste.* 23. *cyaneopennis* *Ste.*

The Plant is *Carlina vulgaris*, Wild Carline Thistle.



ATTELABUS CURCULIONOIDES.

ORDER Coleoptera.

FAM. Curculionidæ.

Type of the Genus, Attelabus curculionoides Linn.

ATTELABUS Linn., Fab., Lat., Gyll., Schön., Curt.—Curculio DeGeer.

Antennæ inserted in cavities on each side of the top of the rostrum and near to the eyes (6), longer than the head, capitate, not geniculated, pilose and 11-jointed, 2 basal joints stout and ovate, 6 following narrower, subpyriform, 3rd shorter than the 4th; 5th like the 3rd; 6th, 7th and 8th shorter and more globose, the remainder forming an elliptical club, 9th joint subpyriform, 10th shorter, 11th lemon-shaped, the apex being a little acuminate.

Mandibles short, but visible at the end of the rostrum, concavo-convex, one bifid at the apex (2), the other with an obscure tooth on each side of the apex.

Maxillæ short, with a long internal lobe rounded at the top and densely margined, with stout obtuse bristles. *Palpi* short, stout and attenuated, attached to scapes, triarticulate, 1st and 2nd joints cup-shaped, 3rd the smallest, ovate (3).

Mentum large, concave before. *Labium* large and suborbicular, the anterior margin slightly concave with a triangular lobe in the middle, the sides dilated and rounded. *Palpi* short, attached on each side of the lip beyond the middle, biarticulate, basal joint cup-shaped, 2nd small, ovate, the apex glandular and producing a seta (4).

Head and rostrum not longer than the thorax, the former oblong, subcylindric, not narrowed at the base (7), the latter deflexed, a little curved, stout and dilated at the apex: eyes remote from the thorax, rather small and globose. Thorax convex, semiovate, truncated before, broadest at the base which is convex: scutel rather large, and elongate-ovate. Elytra broad, short and convex, ovate, truncated at the base and broader than the thorax, gaping, the apex of each elytron being rounded. Wings very ample. Legs rather long: thighs very stout, narrowed at the base: tibiæ slender and compressed, serrated internally, the apex a little dilated, with a double claw inside: tarsi longish, 4-jointed, spongy beneath, basal joint long, dilated anteriorly, 2nd short, elongate obtrigonal, 3rd broad and bilobed, 4th as long as the 1st, slender and clavate: claws slender and curved (5, a fore leg).

CURCULIONOIDES Linn.—Curt. Guide, Gen. 387. 1.—nitens Payk.

Smooth, shining, black; rather sparingly punctured: head with 3 ridges between the eyes, base of antennæ sometimes red: thorax sanguineous-orange, the anterior and basal margins blackish, as well as the scutel: elytra sanguineous, with several punctured striæ on each; the interstices punctured.

In the Author's and other Cabinets.

THIS handsome beetle lives upon nut-bushes and oaks, on the leaves of which it is not uncommonly found, and the coral-red of the thorax and elytra, which is bright in the living insect, contrasted with the green leaves, renders it very conspicuous: that these beetles feed upon the leaves there is little doubt, for I have frequently found numerous small holes where they were standing, and I think I have detected them in the act of eating. The tibiæ are admirably adapted for clinging to anything, being toothed on the inside, with 2 curved claws at the apex, and the tarsi are spongy beneath.

The form of this insect is rather peculiar; it is very short and convex, and when touched contracts its head and legs, and bending its head and thorax close, it becomes very globose and drops from the leaf or plant on which it is standing. It is found in May, June, and July at Coomb, Darent, and Epping; Mr. Paget takes it, but rarely, in Lound wood near Yarmouth. I have frequently met with it in Norfolk, sometimes upon the willow, and Mr. Heysham has taken it near Carlisle.

Donovan, in his *British Insects*, v. 5, pl. 149, has figured an insect which he calls *Attelabus curculionoides*; but it is evidently the *Apoderus Avellanæ* of Linnæus; and he has not only given a magnified representation of the head, but he expressly alludes to the slender neck of his insect, which at once distinguishes it from *A. curculionoides*; yet Mr. Stephens has referred Donovan's figure to *this* insect in both his works, and I regret to see that Schönherr has done the same, as it proves he has copied Stephens's error without consulting the work referred to.

As entomologists have been misled by these references, it may be as well to observe that *Apoderus Avellanæ* has 12-jointed antennæ; the head is obovate, being narrowed behind and attached by a slender neck; the tibiæ have but one claw at the apex; it is not very glossy; the legs as well as the thorax and elytra are red, with black knees and tarsi.

This insect also feeds on the hazel, and I have several times found it in company with the *Attelabus*, but it is a much more common species.

The Plant is *Milium effusum*, Soft Millet-grass, communicated by Dr. Bromfield.

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BRUCHUS ATER.

ORDER Coleoptera.

FAM. Bruchidæ.

Type of the Genus, Bruchus Pisi Linn.

BRUCHUS Linn., DeGeer, Schön., Curt.—Mylabris Geoff.

Antennæ inserted before the eyes on each side of the clypeus, longer than the thorax, stoutish, sometimes clavate or serrated, curved, pubescent, not geniculated, 11-jointed, basal joint stouter than the 2, 3 or 4 following, which are slender and ob-ovate, the remainder large, often compressed, and turbinate or ovate-truncate, the 11th ovate or conical (6).

Labrum lunate, the margin convex and ciliated, with a few bristles above (1).

Mandibles elongate-trigonal, pubescent outside, interior margin sinuated, with a long membranous margin jagged above (2).

Maxillæ with rather long and slender lobes, the external one linear, the internal much more slender and curved at the apex, both densely hairy on the margins. *Palpi* much longer, filiform, with a few short bristles, 4-jointed, basal joint small, 2nd and 3rd longer somewhat pyriform-truncate, former the stoutest, 4th twice as long, fusiform-truncate, with a vesicle at the apex (3).

Mentum transverse with a short rounded lobe on each side. *Lip* oblong a little dilated before, the margin sinuated and pilose.

Palpi much shorter than the maxillary, attached near the middle of the lip, slightly bristly and triarticulate, basal joint small, 2nd longer pyriform-truncate, 3rd the largest, longest and fusiform-truncate (4).

Head deflexed, ovate-trigonal, the apex flattened into a thin broad short rostrum: neck narrowed: eyes prominent and lunate. Thorax transverse, narrowed before, the base slightly lobed in the centre: scutellum small and quadrate. Elytra ovate, slightly convex, the apex rounded, not covering the Pygidium which is almost vertical and subcordate. Wings ample. Legs, hinder the longest and stoutest (5†): thighs, hinder frequently incrassated and dentate: tibiae simple, hinder dilated towards the apex, which is armed at the internal angle with a strong tooth, with several minute ones: tarsi 4-jointed, basal joint long and curved in the posterior, 2nd short, 3rd bilobed, 4th rather long and clavate: claws short, hooked at the base.

ATER Marsh.—Curt. Guide, Gen. 390.

In the Cabinets of Mr. Dale, the Author, &c.

SCHÖNHERR has very naturally placed the Bruchidæ at the commencement of his family Curculionidæ, in which tribe it has been the rule to include them from the days of Linné; he has, however, interposed the Anthribidæ between them and

the Attelabidæ, which are undoubtedly Curculionidæ. It is, I think, very doubtful whether the Bruchidæ and Anthribidæ (pl. 723 and 726) ought to be included in that tribe, being in truth more nearly allied to the Cerambycidæ, for they have a distinct labrum, and palpi totally different to any of the Curculionidæ.

The following are British species, arranged under Schönherr's Stirps 2, with the thorax transverse, subtrapeziform, the anterior angles rounded.

Manipulus 1. *Thighs toothed.*

† *Sides of thorax dentated.*

1. Pisi *Linn.*—*Oliv.* v. 4. No. 79. tab. 1. f. 6.

This is a most destructive insect in bean and pea-fields: the larvæ live in the seeds until they are full-grown, sometimes destroying more than half the crop: they are most abundant the end of May in fields in Kent, and are occasionally found as late as August, and I have seen them alive in beans as early as March: the late Mr. Atkinson found the beetle on *Orobis tuberosus* (pl. 172), and in the flowers of the rhubarb.

2. granarius *Linn.*—*Oliv.* 4. 79. t. 1. f. 10.—atomarius *Linn.*

Abundant on the furze everywhere, as early as February.

3. affinis *Step.* a var. of *granarius* with the anterior tarsi black.

†† *Sides of thorax not dentated.*

4. Loti *Payk.* June, on *Lotus corniculatus* (pl. 259), Hampstead Heath and Somersetshire.

5. Lathyri *Kirb.* "Found near London and Bristol."

2. *Thighs not toothed.*

6. seminarius *Linn.*—*Oliv.* 4. 79. t. 2. f. 12. Found at Ep-ping by Mr. Doubleday, and at Henley in June.

7. Cisti *Fab.*—*Panz.* 66. 15? June, abundant on the flowers of *Cistus Helianthemum* (pl. 279).

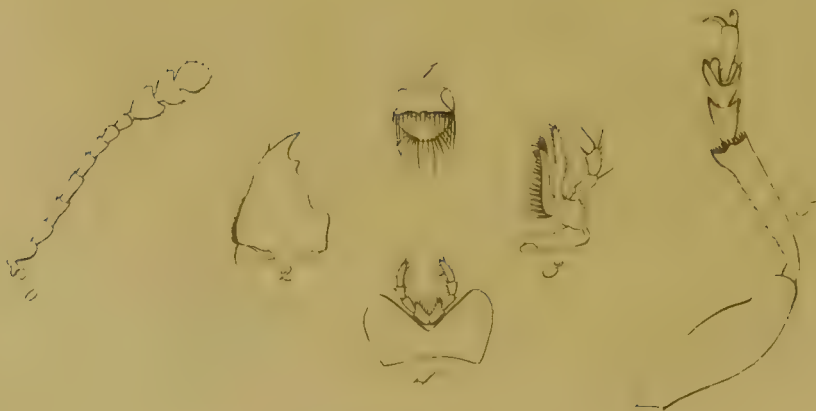
8. ater *Marsh.*—*Curt. Brit. Ent. pl.* 754.

Slate-black, thickly and minutely punctured, clothed with minute whitish hairs: elytra more faintly punctured, and deeply striated, hinder thighs a little incrassated.

This species is distinguished by its thicker and entirely black antennæ, with the *three* basal joints only small, *fig. 6. a.* *Fig. c.* is the antenna of *B. Cisti*. I think I have found *B. ater* abundant on the broom in Norfolk: July, near Sherburn, Yorkshire, Rev. A. Matthews: Carisbrook Castle and Hodd-hill, Mr. Dale.

The Plant is *Doronicum Pardalianches*, Great Leopard's bane, from East Woodhay, communicated by J. E. Winterbottom, Esq.





PLATYRHINUS LATIROSTRIS.

ORDER Coleoptera.

FAM. Anthribidæ.

Type of the Genus, Anthribus latirostris Fab.

PLATYRHINUS Clair., Schö., Curt.—Anthribus Fab., Gyll.—Macrocephalus Oliv.

Antennæ inserted in deep cavities under the sides of the rostrum, a little beyond the middle, not much longer than the head, capitate, 11-jointed, 1st joint stoutish, oval, the base narrowed and bent, 2nd joint short ovate-truncate; 3rd and 4th as long as the 1st but more slender, 5th and 6th shorter, 7th and 8th ovate; the remainder forming a subcompressed club; 9th joint oval, 10th orbicular, both concave before; 11th suborbicular slightly pointed (6).

Labrum exserted, minute, semiorbicular and ciliated with long bristles, with a series of long bristles at the base (1).

Mandibles alike, strong and exposed, trigonate, apex acute, with a smaller blunt tooth below, and a protuberance near to the base (2).

Maxillæ short, formed of 2 very long slender lobes, inner one ciliated with strong bristles, the apex with a curved brush of hairs, outer one longer and less hairy. *Palpi* a little longer, 4-jointed, basal joint short and slender, 2nd and 3rd stout subovate-truncate, 4th a little longer, elliptic-ovate, the apex compressed (3).

Mentum large, transverse-cordate, the base truncated. *Lip* small, forming 2 divaricating lobes, very pilose: *Palpi* slender, but not short, triarticulate, basal joint obovate, 2nd shorter, 3rd the longest, sublinear, bristly, especially on the inside, apex rounded (4).

Head broad, rostrum nearly as broad, short, deflexed, flat and oblong, the apex subtruncate: eyes nearly basal, remote, small, globose and prominent. Thorax broad, depressed, oval, truncated before and behind, the sides produced at the middle into an emarginate lobe: scutell minute, semiorbicular. Elytra broader than the thorax, elliptic, depressed, base truncated, apex rounded. Wings ample. Pygidium nearly covered. Legs moderate: thighs simple, slender at the base, the apex contracted: tibiæ simply clavate, subcylindric, apex pectinated, with a short tooth on the inside: tarsi 4-jointed, basal joint elongate-obovate, 2nd broader, short and furcate, 3rd small, cordate, bilobed, spongy beneath, immersed in the preceding, 4th slender and clavate, inserted close to the base of the 3rd: claws short and strong, with a tooth on the inside (5, a fore leg).

LATIROSTRIS Fab.—Curt. Guide, Gen. 393. 3.

In the Author's and other Cabinets.

THIS family seems to form a transition from the Curculionidæ to the Salpingidæ, fol. 662; but should these last have to be removed in consequence of their heteromerous character, then the Anthribidæ will, it is presumed, come in immediate contact with the Cerambycidæ, which they certainly very much resemble.

The only species of *Platyrhinus* known to inhabit Europe is

1. *latirostris*, *Fab.*—*Curt. Brit. Ent. pl.* 723.

Velvety, gray, head and apex of elytra ochreous: antennæ black; thorax variegated with brown, with a large cavity in the centre, the margins elevated, the edges pale; elytra with strongly punctured striæ, 2 first abbreviated, the 3d interstice from the suture raised, and terminating abruptly before the apex, as well as the sutural and the outer alternate interstices; an irregular reddish brown spot on each shoulder margined with ochre, connected at the suture by a blackish band, another very irregular band across the middle, and a 3d beyond it, all edged with ochre and margined with broad black spots: abdomen beneath silky grayish white: legs black with white somewhat circular transverse lines; joints of the tarsi white at the base.

This handsome species probably undergoes its metamorphoses in *Sphæria Fraxinea*, and is found on the trunks of the ash, beech, alder and birch. I have occasionally met with it in Boleti in woods and on trunks of trees in Norfolk in June, and Mr. Dale has found it under the bark of the beech in the New Forest in April: at Clifton, near Bristol, it has occurred in considerable abundance at the end of April, at the base of trees, and Mr. Walcott transmitted a living specimen to me from that neighbourhood. Mr. Dillwyn occasionally finds it on ash-trees near Swansea, and various other localities have been recorded.

TROPIDERES of Schön. is a subgenus distinguished by longer antennæ, with the 3d and 5 following joints elongated and slender, with the club elongated; the eyes are large and often somewhat approximating in front.

1. *niveirostris* *Fab.*—*brevirostris* *Panz.* 57. 9.

It inhabits the hazel in June, in Coomb-lane and the New Forest. I found one upon a gate at Earsham in Norfolk.

2. *albirostris* *Fab.*—*Panz.* 15. 13.

“Captured on paling near Norwich.”—*Step.*

The plant is *Acinos vulgaris*, Basil Thyme.



Longhorn beetle on the plant

ANTHRIBUS ALBINUS.

ORDER Coleoptera.

FAM. Anthribidæ.

*Type of the Genus, Curculio albinus, Linn.*ANTHRIBUS *Fab., Schö., Curt.*—Macrocephalus *Oliv.*—Curculio *Linn.*

Antennæ inserted in a deep cavity before the eyes, under the sides of the rostrum, nearly as long as the body in the male, clavate and 11-jointed, basal joint very short and ovate, 2nd smaller obovate, 3rd the longest, clavate, 4 following shorter, clavate, the remainder forming a subfusiform, compressed club, 8th joint a little stouter than the 7th; 9th as long and stouter, 10th quadrate, 11th subpyriform: not much more than half as long in the female (6), 3rd joint the longest, 4th shorter, 5th obovate, 6th and 7th subglobose, 8th short obconic, 9th stouter, ovate-truncate, 10th transverse, 11th short and conical.

Labrum small, transverse, semiovate, the centre straight, densely ciliated with long incurved hairs (1).

Mandibles exerted, nearly alike, trigonate, acute, with a small sharp tooth below the apex and a circular notch at the middle (2).

Maxillæ with a linear lobe, furnished with strong curved spines at the apex and pectinated on the inside, with a long narrow moveable lobe outside, hairy and furnished with similar curved spines at the apex. *Palpi* stoutish, 4-jointed, basal joint small, 2nd stout, semilunate, 3rd as stout but shorter, oblong, 4th the longest, elongate-ovate-conic with a gland at the apex (3).

Mentum large, suborbicular, the anterior margin deeply cleft and forming 2 large oval lobes. *Lip* furcate and very hairy inside. *Palpi* slender, triarticulate, basal joint a little elongated, 2nd as long but more ovate and thickly clothed internally with long hairs, 3rd joint a little longer, nearly linear, very bristly, the apex obtuse (4).

Head *nutant*; rostrum *quadrate* (7); clypeus *notched*: eyes *small, lateral, prominent and reniform*. Thorax *conical truncate, twice as broad as the head at the base*: scutellum *very minute*. Elytra *rather broader than the thorax, oblong, ovate, subcylindric, the apex rounded*. Wings *ample*. Pygidium *minute*. Legs *stoutish, of equal length*: thighs *stoutish, contracted at the apex*: tibiae *narrowed at the base, the apex truncated*: tarsi *elongated, 4-jointed, basal joint elongate-obtrigonal, 2nd obtrigonal-furcate, 3rd small bilobed, spongy beneath, 4th clavate* (5† *hind leg*): claws *bifid on the inside at the base* (*).

ALBINUS *Linn.*—*Curt. Guide, Gen. 393. 1.*

In the Author's and other Cabinets.

THIS insect is now considered by Schönherr as the type of the Fabrician genus *Anthrribus*: it is distinguished from *Platyrhinus* (Pl. 723) by the acuminate apex of the antennæ and their unusual length in the males, by the kidney-shaped eyes, as well as by the more convex form of the whole beetle. With the exception of the mentum, the trophi of these two groups are very similar, from which we may infer that their œconomy is pretty nearly the same.

The only species inhabiting Great Britain is

A. albinus Linn.—*Curt. Brit. Ent. pl.* 726 ♂—*fig.* 7, *head, &c.* of ♀.

Lead-colour variegated with reddish brown marks formed of short strong hairs; crown of head, face and rostrum densely clothed with yellowish-white pubescence: antennæ black, tips of 7 basal joints excepting the 1st and 2nd white, 8th entirely, and base of 9th snow white: thorax coarsely punctured, with the anterior margin and a spot in front yellowish-white; 4 black elevated points across the middle, the 2 central ones contiguous: elytra with strongly punctured striæ, the interstices slightly rugose, a white patch on the disc of each united by indistinct whitish lines, a large portion of the apex yellowish-white; the 3rd space from the suture with a line of six black elevated tufts, basal one the largest: legs brownish ochre; thighs banded; tibiæ with a basal and a central brown ring, the apex whitish; tarsi black, apical joint white: underside of abdomen ochreous with short dense pubescence.

This handsome beetle I have never seen alive, although it has become comparatively abundant of late years. It is generally found upon hurdles and dry wood in June, and has occurred in Kensington Gardens, at Eltham, Darent-wood, and in Dorsetshire. Gyllenhal says it inhabits the trunks of oaks, birch, and willows, and I think it has been taken not uncommonly near Bewdley in Worcestershire.

Monotropa Hypopithys, Yellow Bird's-nest, was communicated by N. B. Ward, Esq.



SPHÆRIESTES FOVEOLATUS.

ORDER Coleoptera. FAM. Salpingidæ.

*Type of the Genus, Dermestes ater Payk.*SPHÆRIESTES Kirb., Curt.—Salpingus Ill., Gyll.—Curculio Mars.—
Dermestes Payk.—Tenebrio Linn.?*Antennæ* remote, inserted on each side of the clypeus, before the eyes, a little longer than the head and thorax, clavate, hairy and 11-jointed; basal joint obovate, 4 following slenderer somewhat pear-shaped, 4th and 5th being the smallest, the following stouter, submoniliform, the joints somewhat ovate-truncate, terminal joint ovate-conic (6).*Labrum* exserted, large, covering the mandibles, cordate, the base truncated with a few bristles round the margin (1).*Mandibles* exserted, elongate-trigonal, a little curved and acute at the apex, serrated on the inside, the teeth diminishing towards the base (2).*Maxillæ* elongated, terminating in 2 long narrow lobes, pubescent at the apex, the inner one the shortest. *Palpi* longer, 4-jointed, basal joint minute, 2nd subpyriform, 3rd shorter, 4th the longest, subfusiform, with a gland at the apex (3).*Mentum* transverse, scarcely narrowed before. *Labium* elongate-ovate, narrowed at the middle, the apex being orbicular and slightly pilose. *Palpi* attached on each side at the middle, rather remote, triarticulate, 2 basal joints short, obovate, 3rd a little longer and stouter, the apex slightly oblique (4).*Head* rather broad and oblong, produced narrowed and depressed anteriorly: eyes remote, small but prominent, not touching the Thorax, which is somewhat obcordate, the base truncated: scutellum small and triangular. *Elytra* long, subelliptic, a little dilated beyond the middle, the apex rounded. *Wings* very ample. *Legs* slender: thighs a little thickened: tibiæ with short spurs at the apex: tarsi 5, 5 and 4-jointed, pubescent beneath, anterior with the basal joint a little elongated, 3 following cordate, 4th the smallest (5); basal and terminal joints long in the hinder feet (†): claws long slender and acute. *Obs.* The species dissected is *S. foveolatus*.

FOVEOLATUS Liungh Act. Hol.—Curt. Guide, Gen. 396. 5.

In the Cabinets of Mr. Little and the Author.

THIS is a very anomalous group approaching the Curculionidæ, yet being in fact heteromerous: its position seems to be between Anthribus and Trogositæ.

The British species are,

1. *foveolatus* Liungh.—Curt. Brit. Ent. pl. 662.

Black with a slight brassy tinge; clypeus, trophi, base of antennæ, tibiæ and tarsi ferruginous, apex of the latter and thighs often piceous; head and thorax very coarsely punc-

tured, especially the latter, which has also a large transverse impression and 2 foveæ; elytra with a strong semicircular impression near the base, which is deeply punctured, the remainder with somewhat irregular strongly punctured striæ, with punctures between them, thickest towards the apex.

This northern species was first detected in Scotland by the Rev. Wm. Little, to whom I am indebted for specimens, accompanied by the following note: "I find this insect on the top of a wall at Cramond House near Edinburgh in October and the beginning of November. The wall is under a row of Beech- and Elm-trees, which are probably their true habitat."

2. *ater* Payk. Black, somewhat brassy, smooth, base of antennæ and tarsi pitchy-red, thorax very thickly punctured, with 2 foveæ, head rounded: length 1 line.

Taken in Norfolk; Southgate, Mr. F. Walker; Raehills, Dumfriesshire, on the pitch of the Fir, the Rev. W. Little.

3. *immaculatus* Step. Castaneous-brown or ferruginous, eyes black, antennæ and legs pale, thorax very thickly punctured with an impression on each side at the base: $1\frac{1}{4}$ $1\frac{3}{4}$ lines. *Illus.* 4. 218. 2.

July on a Fir-tree Ockingham-heath, Norwood, and Chelsea; under the bark of a Plane-tree at Cramond House, Rev. W. Little. Probably the immature state of *S. ater*.

4. *Piceæ* Ahr. *fasc.* 10. *pl.* 9. Piceous, shining, punctured, base of antennæ, tibiæ and tarsi ochreous; elytra with punctured striæ, irregular at the base: $1\frac{3}{4}$ line.

July, Southgate, Mr. F. Walker.

5. *æneus* Step. not of Oliv. Brassy-black, shining, base of antennæ tibiæ and tarsi ferruginous, thorax short punctured, elytra without foveæ: $1\frac{3}{4}$ line.

Found near London. This insect is probably identical with No. 4. *S. Piceæ*, for Olivier's figure represents a *Salpingus*.

6. *quadripustulatus* Mars. 297. 171.—*Step. Illus. pl.* 21. *f.* 5. Head thorax and legs ferruginous; sides of thorax denticulated; elytra with a ferruginous spot at the base and another at the apex: $1\frac{1}{4}$ line.

June and July White-thorn hedges, paling Camberwell Grove; Battersea Fields, Coomb Wood, Herts, Surrey, and Swansea.

7. *denticollis* Gyll. 3. 715. 5. Elongate-fuscous, head thorax antennæ and legs testaceous, base of elytra pale, thorax very thickly punctured, attenuated behind, sides denticulated: $1\frac{1}{2}$ line.

Hedges in the neighbourhood of London. A *var.* probably of *S. 4-pustulatus*.

Vaccinium Vitis Idæa, Red Whortle Berry, was communicated by Mr. Walton from Harrowgate Moor.

F. l.



TROGOSITA MAURITANICA.

ORDER Coleoptera.

FAM. Trogositidæ.

Type of the Genus, Tenebrio Mauritanica Linn.

TROGOSITA Oliv., Fab., Lat., Curt.—Platycerus Geof.

Antennæ remote, inserted at the extremity of a deep cavity, on each side of the head, between the eyes and the mandibles, short and clavate, compressed towards the apex, sparingly pubescent, 11-jointed, basal joint stouter than the following, obovate, 2nd minute, 3rd a little oblong, the remainder increasing in diameter, 3 or 4 of the terminal joints forming a club, 9th and 10th joints cup-shaped, 11th suborbicular (6).

Labrum exserted, transverse, the angles rounded, anterior margin a little concave and densely ciliated with long hairs (1).

Mandibles porrected, rather large, bifid at the apex, with 3 or 4 teeth on the inside and ciliated at the base (2).

Maxillæ terminating in a curved, elongated, oval lobe, the apex ciliated with long bristles, the internal margin with numerous curved spines longest above the middle. *Palpi* moderate, 4-jointed, basal joint subglobose, 2nd long, subovate-truncate, 3rd rather shorter, curved, pyriform-truncate, 4th considerably the longest, subfusiform, truncated at both ends (3).

Mentum transverse, sublunate. *Labium* large, the base obovate-truncate, the apex dilated, subcordate, with a brush of long cilia on each side. *Palpi* remote, attached on each side of the mentum a little beyond the middle, short, clavate and triarticulate, basal joint minute, 2nd tolerably long, stout, dilated anteriorly, 3rd the largest, base narrow, apex ovate-truncate (4).

Depressed. Head suborbicular: eyes small, subovate, coarsely granulated and placed behind deep cavities which receive the antennæ, remote from the base. Thorax broader, semiorbicular, a little broadest before, the anterior angles produced and incurved, the sides slightly margined, posterior angles acute, base rounded: scutellum small, triangular. Elytra a little broader than the thorax, from which it is separated by a narrow neck, elliptic, the base truncated: wings ample. Legs short, anterior the stoutest: thighs very short and stout: tibiæ short, compressed, dilated at the apex, especially the anterior (5+), with 2 minute teeth at the outer and 2 curved spurs at the inner angle: tarsi as long as the tibiæ and 4-jointed, ciliated beneath, first 3 joints short, 4th long and clavate: claws strong and curved.

MAURITANICA Linn.—Curt. Guide, Gen. 397. 1.—caraboides Fab.

Dull castaneous, palpi subferruginous, tips of mandibles and eyes black; head with a longitudinal impression before; regularly but not thickly punctured, the thorax punctured: elytra piceous or blackish, 9 punctured striæ on each, very faint externally, the interstices punctured and transversely scratched.

TROGOSITA has hitherto been included in the Cucujidæ, but the numerical difference in the joints of the tarsi, independent of the trophi, which are very dissimilar, as will be seen by referring to pl. 510, render it impossible to keep them in the same family. It is not surprising that Linnæus should have

included this insect with the *Tenebriones*, since its general habit approaches that genus, and also the *Scaritidæ*, with which it agrees also in being carnivorous, and it is only by a minute examination of the tarsi and trophi that we can obtain satisfactory evidence of its real affinities; the absence of the internal notch in the mandibles I consider quite sufficient to remove it from the *Tenebriones*, and I feel convinced that the tarsi are all tetramerous, the fifth joint of Olivier being nothing more than the incrassated base of the radical one.

The *Tinea granella*, *Calandra granaria*, and *Trogosita Mauritanica* are all injurious to corn when housed; but this last insect is particularly destructive, because it eats the outside of the grain, and consequently passes from one to another, injuring as much or more than it consumes. *Trogosita* is an inhabitant of many warm regions, and fortunately for us it does not propagate readily in a northern climate: it is abundant in the south of France, where it is called *Cadelle*.

I believe nothing is known respecting the depositing of the eggs; it is the larvæ alone which feed on the corn, and they do the greatest mischief at the end of winter, for they are then full-grown and have attained the length of 8 lines: they enter the earth or bury themselves in dust to become pupæ. The beetle is carnivorous, and makes some recompense for the mischief it had done in its early days by destroying the *Tinea granella*.

In the Transactions of the Entomological Society for 1812, is a letter from Mr. Kirkup, stating that a larva of *Tenebrio Mauritanicus* had been found in a Spanish almond, and that it was 15 months before it became a beetle, after which it lived 21 months, making a period of nearly 3 years, independent of the time it had lived previous to its being detected in the almond. It is worthy of remark too, that the œconomy of this larva differed from those observed by M. Dorthes, because they lived in the nut, and Mr. Kirkup believed that the beetle afterwards fed upon the almond also.

It is evident that this beetle has been introduced from the shores of Africa, and is spreading itself in Europe; but as it is not supposed to breed at large in Britain, the name is printed in *Italics* in the Guide. From what has been already stated, it is clear that the specimens discovered in this country have been imported in fruits and grain; the fact, however, of Mr. Babington having found them in the rotten floor of a malt-house at Cambridge, proves the mischief that may arise from storing foreign corn, and the precautions that ought to be taken in cleansing granaries from time to time by having the walls and ceilings washed with lime, and the floors scrubbed with hot water, by which means one of the most valuable articles of life would be secured from extensive injuries, which are often effected by the united agency of the above insects.

Isatis tinctoria, Wild Woad, was communicated by B. Kennedy, Esq., from a chalk-pit near Guildford.



CUCUJUS SPARTII.

ORDER Coleoptera. FAM. Cucujidæ—Cucujipes *Lat.**Type of the Genus, Cantharis sanguinolenta Linn.*CUCUJUS *Fab., Oliv., Lat., Gyl., Curt.*—*Cantharis Linn.*

Antennæ inserted considerably before the eyes, sometimes longer than the head and thorax in the males, straight, very hairy, 11-jointed, 2 basal joints stouter than the 6 following and ovate, 1st a little the largest, 3rd ovate, the remainder moniliform and globose, excepting the 3 last which are as stout as the basal joints and ovate, the terminal one producing a sort of tubercle at the apex (6).

Labrum porrected, semiorbicular, thickly ciliated with bristly hairs (1).

Mandibles subtrigonal, curved and a little pilose outside, trifid at the apex, the internal margin dilated, excised and covered with a very fine membrane (2).

Maxillæ with a slender hooked and very acute lobe on the inside, and an elongated rather broad and pubescent one on the outside. *Palpi* short pubescent and triarticulate, basal joint clavate, 2nd shorter, subovate, 3rd as long as the 1st elongate-oval, with a gland at the apex (3).

Mentum transverse, deeply emarginate, the sides produced and forming 2 subacuminated lobes. *Lip* large corneous rounded and ciliated. *Palpi* rather short, attached to two scapes, pubescent, biarticulate, basal joint somewhat obtrigonal, 2nd barrel-shaped with a gland at the apex (4).

Head broad and flat narrowed before: eyes remote from the base, small and lateral. Thorax more or less obtrapezate or obovate truncate, the sides margined: scutellum transverse-ovate. Elytra generally broader than the thorax, depressed, elliptical, the margins deflexed. Wings as long as the body, broad, very thin and ciliated. Legs nearly alike, very short and compressed, anterior pair attached to the hinder margin of the antepectus, posterior pair remote from the intermediate: thighs dilated, but very slender at the base: tibiæ slightly clavate and very hairy inside towards the apex, with a small spine: tarsi 5-jointed, 4 first joints very small, terminal one long and clavate, sometimes the basal joint is nearly obsolete and the posterior are only 4-jointed in the males, with the basal joint minute, and the 2nd long: claws rather long and acute (5).

Obs. The description and dissections are from *C. ferrugineus*? *Meg.*

SPARTII *Curt. MSS. Guide, Gen. 398.*

Castaneous brown, sparingly clothed with short ochreous hairs; antennæ mouth and legs ferruginous, the former with the 3 terminal joints a little incrassated, the 2nd not larger than the 3rd: eyes black; head and thorax minutely punctured, with a broad slightly elevated margin to both, the latter obovate-truncate; elytra with 4 slightly elevated lines down each, with very faint and punctured lines between them.

In the Cabinets of Mr. Rudd and the Author.

I SHOULD very much regret having been under the necessity of dissecting a small species, which differs so materially from the type, if Mr. Westwood had not described and figured the trophi, &c., of *C. depressus* and other species in the 5th vol. of the Zoological Journal: I shall, however, briefly give the characters of the type.

Antennæ with the 2nd joint the smallest. Mandibles with 3 strong teeth; labium bilobed; terminal joint of palpi broad and truncated. Head subtrigonal, narrowed at the base and broader than the thorax, which is transverse with the sides a little denticulated not marginate; tarsi 5-jointed, anterior dilated, the basal joint very minute, the posterior pair only 4-jointed in the male? with the 2nd joint as long as the 4th.

The following species have been recorded as British:

1. *C. dermestoides* Fab.—Panz. 3. 13.—*depressus* Herb.

The tarsi are similar to *C. depressus* F., and the 6th and 8th joints of the antennæ are smaller than the preceding and following.

Taken by the Rev. G. T. Rudd, "who found them the beginning of June running in the hot sunshine over the newly barked trunks of oak trees near Lyndhurst in the New Forest; they entered the cracks in the timber, which their extremely depressed form peculiarly adapts them for." Mr. Dale also captured it at the same time.

5. *C. piceus* Oliv. 4. No. 74. *bis*, pl. 1. f. 5.—Zool. Journal, pl. 47. f. 1.

6. *C. Spartii* Curt. Brit. Ent. pl. 510.—*ater* Step.

The *C. ater* of Olivier is entirely of a deep black with a thick head, represented also very broad in the figure, and an almost heart-shaped thorax.

Taken in abundance by Mr. Rudd out of decayed Broom-stems at Coomb-wood in April and May.

3. *complanatus* Wilk.—*monilicornis* Step.?

Is considerably like *C. Spartii*, but it is testaceous; the head is broader and the thorax more narrowed behind. Found in Dec. in Granaries and Cornbins in Norfolk by Mr. S. Wilkin.

7. *ferrugineus* Meg.?—*testaceus* Ste. pl. 21. f. 6.

Found in a Granary by Mr. Babington in abundance, also in an old decayed Elm in Wiltshire in Dec. by Mr. Inghen.

2. *testaceus* Fab. Under the bark of dead trees.

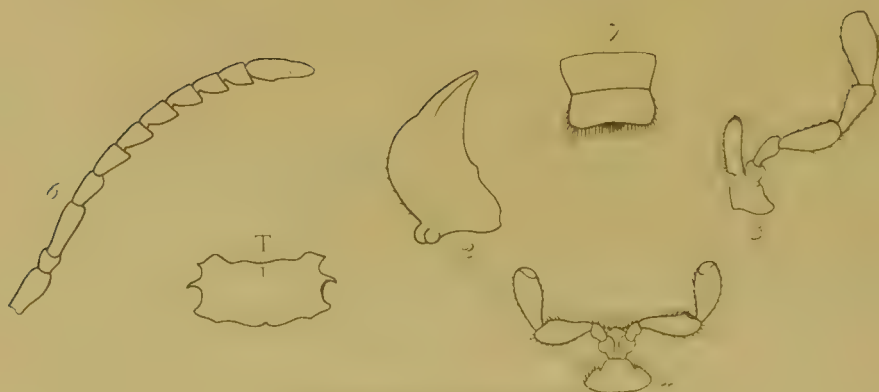
4. *minutus*? Oliv. pl. 1. f. 9. Found by the late Mr. Griffin amongst Indian wheat.

8. *unifasciatus* Lat. Hist. Nat. 11. 256. 7.—Zool. Journal, pl. 47. f. 2.

Taken in June in the New Forest by Mr. Rudd, to whom I am indebted for specimens as well as of the species figured: it was also found "under the bark of a Horn-beam tree in Hainault Forest by Mr. Bydder."

The Plant is *Hypericum perforatum* (Perforated St. John's Wort).

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PRIONUS CORIARIUS.

ORDER Coleoptera.

FAM. Prionidæ.

Type of the Genus, Cerambyx coriarius, Linn.

PRIONUS Geof., Fab., Oliv., Lat., Serv., Curt.—Cerambyx Linn., Marsh.

Antennæ inserted in front of a notch in the eyes, remote, a little shorter than the body in the male, stout, serrated, somewhat imbricated and 12-jointed, basal joint stout obovate, 2nd small cup-shaped, 3rd the longest, the apex a little dilated, the remainder decreasing in size, short and obtrigonal, the internal angle acute, 12th joint elongate ovate, the apex truncated obliquely: scarcely so long and not so stout in the female, 11-jointed, 4th and following joints less trigonal, apical one longer with 2 transverse ridges (6).

Labrum visible, small, transverse, pocket-shaped, ciliated (1).

Mandibles porrected, crossing, stout and curved, concave, apex beaked (2).

Maxillæ terminating in an elliptic, rigid, pubescent lobe. *Palpi* attached to distinct scapes, pubescent, 4-jointed, basal joint pear-shaped, 2nd stouter and much longer, a little inflated, 3rd shorter, more pyriform-truncate, 4th the stoutest, a little longer than the 2nd; the apex obtuse (3).

Mentum small, semiorbicular, the sides notched. *Lip* small, narrow at the base, dilated before and hairy, forming 2 divaricating lobes. *Palpi* attached to 2 approximating scapes, as large as the maxillary, pubescent, triarticulate, basal joint small, 2nd large, clavate-truncate, 3rd a little larger more pyriform, the apex obtuse (4).

Head porrected, somewhat conical: eyes large, remote from the base, reniform, transverse, approximating on the crown. Thorax not much broader than the head, transverse, the angles subacuminate, with a strong spine on each side between them (T): scutellum large semioval. Elytra twice as broad as the thorax, convex, a little attenuated, slightly margined, the apex rounded, with a minute sutural spine: wings ample. Legs stout, compressed: thighs stout: tibiae scabrous, channeled, narrowed at the base, anterior the shortest, hinder the longest, a little scimitar-shaped, all emarginated at the apex, with 2 short spurs: tarsi spongy beneath, 4-jointed, anterior a little the broadest, basal joint obtrigonal, 2nd semioval, 3rd bilobed, 4th long slender and clavate, with a minute joint or bulb at the base: claws slender curved and acute.

Larva fleshy, naked, with 6 small pectoral feet, head coriaceous. Pupa inclosed in a large thick cocoon formed of saw-dust or decayed wood.

Roesel v. 2. tab. 2. fig. 3-6.

CORIARIUS Linn.—Curt. Guide, Gen. 400. 1.

In the Author's and other Cabinets.

PRIONUS coriarius is one of the smallest examples of the family to which it belongs, some of the exotic species being of gigantic stature, one brought from Western Africa measuring nearly one foot when the antennæ are extended, the length of the body being about four inches and a half; and in another species it is six inches long. The Prionidæ form a numerous tribe, principally within or near the torrid zone: in temperate climates they are very rare, and the species before us is the only one that inhabits England. The Prionidæ are distinguished from the Cerambycidæ by their stout and sometimes serrated antennæ, by their strong mandibles, which are often elongated in the males, by broad elytra and thick legs, and the maxillæ have only one small lobe.

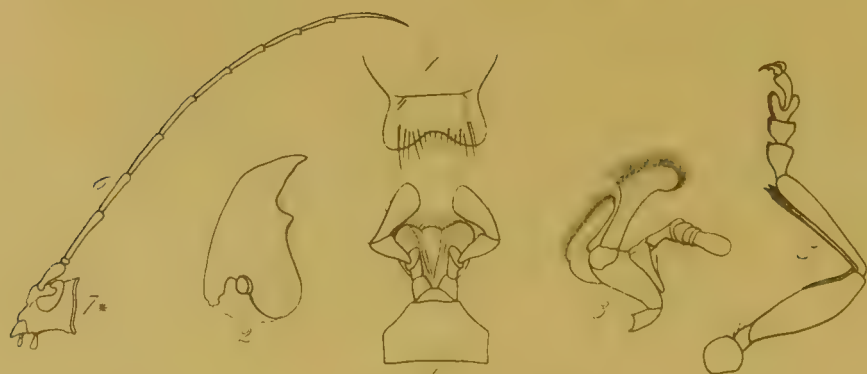
The larvæ live in large trees which are in a decayed state, and the ravages they commit in forests must be very great, considering their size and number; and it is worthy of remark that the insects most destructive to timber are found in tropical regions, where vegetation is most luxuriant, and where plants require to be nourished by the rich soil formed by the decomposition of timber and other vegetable substances; consequently we find in central Africa the largest Buprestidæ in abundance, as well as in India, and the tropical portions of America produce the largest Prionidæ and Cerambycidæ in surprising variety: the Elateridæ and Curculionidæ also assist in the reduction of trees by a similar œconomy.

The female *Prionus coriarius* is said to lay a considerable number of eggs, which are deposited in the crevices and cracks of the wood by means of a horny ovipositor: this species flies heavily in the evening and at night, but it is more frequently seen on the trunks of trees, or in the decayed wood collected at the base of worm-eaten oaks, elms, birch trees, &c. They make their appearance towards the end of July. I have found them rarely in Norfolk; they have been taken at Epping, Birch and Coomb woods, in Cambridgeshire, Essex, Kent, Shropshire and Glamorganshire.

P. Coriarius Linn.—Curt. Brit. Ent. pl. 746 ♂.

Pitchy-castaneous: palpi and tarsi paler: antennæ veined or reticulated, punctured at the base, head thickly and strongly punctured, with an imperfect channel down the centre: thorax short, strongly and numerous punctured, the punctures uniting, smoothest on the disc, base and anterior margin as well as the labrum ciliated with bright ferruginous hairs, the central lateral spine a little curved: scutel not punctured at the apex: elytra rugose, the punctures uniting: each with 3 faintly elevated lines: legs punctured, scabrous, with ochreous pubescence.

The plant is *Sambucus nigra*, Common Elder.



AROMIA MOSCHATA.

ORDER Coleoptera.

FAM. Cerambycidae.

Type of the Genus, Cerambyx Moschatus Linn.

AROMIA Serv.—Cerambyx Linn., Fab., Curt.—Stenocorus Fab.

Antennæ inserted close to the inner margin of the eyes, longer than the insect in the male, shorter in the female, tapering, channeled beneath, pubescent and 11-jointed, basal joint the stoutest, obovate, 2nd small and cup-shaped, 3rd long clavate-truncate, slightly produced externally at the apex, as well as a few of the following, which decrease in length, apical joint the longest and tapering in the male (6), scarcely longer than the 10th in the female.

Labrum porrected, transverse, pocket-shaped, the margins thin and transparent, deeply emarginate before, with a few long bristles (1).

Mandibles moderate, porrected, elongate-trigonal, the apex but slightly pointed, ciliated internally, one having a single tooth (2), the other with 2 on the inside.

Maxillæ terminated by a long narrow lobe, extending beyond the mandibles, dilated and ovate at the apex and densely hairy, internal lobe long, elliptical and densely hairy. *Palpi* not longer than the lobe, attached to a projecting shoulder, 4-jointed, basal joint elongate funnel-shaped, the apex dilated and membranous, 2nd and 3rd very short and cup-shaped, 4th the longest and largest, oval; the apex compressed (3).

Mentum semihexagonal. *Palpi* much larger than the maxillary, attached to 2 approximating scapes at the anterior margin of the mentum; triarticulate, basal joint short and funnel-shaped, the margin membranous, 2nd long, stout, elongate-trigonal, 3rd considerably the largest, clavate and compressed. *Lip* large membranous, subcordate and hairy (4).

Head slightly drooping (7* the profile), subobovate, not narrowed at the base, the forehead elevated. Eyes profoundly emarginate internally to receive the antennæ. Thorax ovate-truncate, uneven, with a conical spine on each side at the middle, where it is much broader than the head: scutell triangular. Elytra completely covering the abdomen, long and linear, the apex rounded. Wings ample. Legs stout, a little compressed: thighs clavate, hinder the longest: tibiæ, anterior short, velvety on the inside, hinder long compressed and curved at the apex, spurs very minute: tarsi rather broad, densely pilose beneath, 4-jointed, 2 basal joints obtrigonal, 1st elongated in the hinder, 3rd joint bilobed, 4th clavate: claws short and acute (5, a fore leg).

MOSCHATA Linn.—Curt. Guide, Gen. 402, 1.

In the Author's and other Cabinets.

AMONGST the Beetle tribes there are none more graceful in form than the Cerambycidæ, but the agreeable odour of roses which is exhaled by the *Aromia moschata* is a quality peculiar to this species, which is of a beautifully rich glossy green, tinged with metallic copper or gold on the head and thorax, and the elytra have sometimes a rich purple tint at the base and round the margins.

The specific name of *Moschata* is not a happy one, and the trivial appellation given to it in this country of "Musk-beetle" is not less objectionable, for the scent is quite like that of otto of roses, and this is emitted so freely at particular seasons, that it is not only perceptible on approaching them as they move about, but I remember once detecting this perfume in a box in which some of the beetles had been confined, six weeks after they had died.

If it were not for the unfortunate aversion which many persons entertain towards anything in the shape of a beetle or caterpillar, several of these beautiful and remarkable animals might, I think, be introduced into ladies' conservatories, if not into their drawing-rooms, by which means a taste for contemplating the works of nature would be cherished, and thus become a rational amusement to the junior branches of families. A small sallow or willow in a garden-pot would afford a station for the musk-beetle, which is found in considerable numbers on many varieties of those plants, from June to September. The caterpillars of many of the butterflies might be reared with ease in the same way, and thus all their wonderful transformations would be daily passing under the eye, and ultimately one of the most charming objects in nature would be disclosed from the suspended pupa: the beautiful larva of *Sphinx Ligustri* may be readily kept on a plant of the Privet, and many other species might be mentioned; but we can only add that these caterpillars will not ramble from the plants they feed upon until they are full grown, and they are all perfectly harmless.

The only species of *Aromia* inhabiting England is
A. Moschata Linn.—Curt. Brit. Ent. pl. 738 ♀.

Rich shining green: antennæ often chalybeous, black at the apex: head more or less aureous or coppery, thickly punctured at the base, with a channel in front: thorax tinged with gold, punctured, with 6 or 8 tubercles round the disc: elytra finely granulated, each with 2 shining lines, the 1st terminating at the suture beyond the middle, the 2nd reaching the same near the apex: pubescence on the tibiæ and tarsi ferruginous.

Mr. Newman once informed me that he discovered the Musk-beetles feeding on ripe gooseberries, generally on those which had fallen down.

For specimens of *Phyteuma orbiculare*, Round-headed Rampion, I am indebted to Mr. Joseph Graham, and I also gathered others at Mickleham last August.



Cerambyx cerinus L.

MONOCHAMUS SARTOR.

ORDER Coleoptera. FAM. Cerambycidae *Lat., Leach.**Type of the Genus Cerambyx sutor Linn.*MONOCHAMUS *Meg., Dej., Lat.*—*Lamia Fab., Lat., Panz., Gyll.*—*Cerambyx Linn., Oliv., Marsh.**Antennæ* inserted on each side the crown of the head upon the interior margin of the eyes, as long or much longer than the body, setaceous, slightly pubescent at the base, 11-jointed, basal joint long robust, 2nd very minute, 3rd considerably the longest, the remainder decreasing in length to the end.*Labrum* exserted, suborbicular, pilose above, slightly emarginate (1).*Mandibles* slender, a little bent, broad at the base, acute at the apex (2).*Maxillæ* small, bilobed, internal lobe deep, densely ciliated, superior long slender and thickly pubescent. *Palpi* rather long in proportion, 4-jointed, basal joint short slender, 2nd much longer robust, 3rd rather shorter, subclavate, 4th the longest subfusiform (3).*Mentum* small rhomboidal, pilose across the middle. *Labium* narrow at the base, very much dilated anteriorly, deeply notched and pubescent. *Palpi* arising near the middle of the lip, triarticulate, basal joint short, 2nd much longer, robust clavate, 3rd as long subfusiform (4).

Head short vertical. Eyes lateral, narrow at the top, ovate below, emarginate next the antennæ (7* the head and antenna in profile). Thorax cylindric, spined on each side, scarcely broader than the head (9). Scutellum small. Wings ample. Elytra broader than the thorax, convex, elongate-ovate, sometimes a little attenuated. Tibiæ slightly curved, very pubescent at the apex, which produces 2 small spines. Tarsi broad, 4-jointed, cushioned beneath, basal joint longer than the 2nd; 3rd bilobed, 4th the longest, clavate. Claws simple. Pulvilli none (5, a fore leg).

SARTOR *Fab. Ent. Syst. v. 1. pars 2. p. 278. n. 42.*—*Gyll. 4. p. 53. n. 2.*

Male bronzed black, shining. Antennæ twice the length of the body, finely granulated. Head coarsely punctured; mouth castaneous. Thorax coarsely punctured, wrinkled before and behind. Scutellum ochraceous, pubescent. Elytra slightly attenuated, coarsely punctured, becoming smoother towards the apex, which is clothed with ochreous pubescence: 3 obscure lines on each. Legs slightly scabrous. Tibiæ, anterior considerably curved; intermediate with an obtuse tooth on the outer margin towards the apex. Tarsi, anterior the broadest, pubescent.

In the Cabinets of the British Museum and Mr. Saimouelle.

THE genus *Lamia* of authors being very extensive, it became necessary to divide it into groups, which have been named by Megerle, and adopted by Latreille and Dejean; one of these is our genus *Monochamus*, which may be distinguished by the great length of the antennæ in the males, and the toothed intermediate tibiæ, but in the trophi there is little to justify its separation from *Lamia*.

The following species have been captured in Britain:

1. *M. sutor* Linn., *Fab.*, *Schæf.* 65. 1.—*Don.* 13. 435. 1.

Mr. Marsham first recorded this insect as a native of our island, and it is said to be found in July and August upon the trunks of trees. Two or three have been taken in Norwich and the vicinity.

2. *M. sartor* *Fab.*, *Panz.* 19. 3. *masc.*—*sutor* *Panz.* 19. 2. *fem.*

The fine male figured was found upon a post near Surrey Chapel, Blackfriars Road, Sept. 1811, and is in the possession of Mr. Samouelle. In the summer of 1812, a specimen was taken at Great Yarmouth, Norfolk; and about the same time another was captured at Costessey in the same county; and a fourth is, I believe, in the cabinet of Henry Hole, Esq., of Ebberley House, Devon, in which neighbourhood it was taken in June.

3. *M. dentator* *Fab.*—*Ent. Trans.* p. 84. *tab.* 1. *f.* 1.

As few naturalists possess the *Entomological Transactions*, the following remarks relating to this interesting insect may be acceptable. It was exhibited with a ticket bearing these words: "Taken in the area of a house in Gloucester-street, Hoxton, Aug. 10, 1806, and brought to me the next day alive and active. T. G. Ingall."

"It is more than probable (observes Mr. Haworth) that this fine species, like *Cerambyx violaceus* and perhaps *C. fulminans* of Sowerby's British Miscellany, and *Stenocorus 4-maculatus* above mentioned, have originally been imported into Britain in timber; but if such species prove capable of enduring this climate, they become to all intents and purposes natives: and it is impossible to say how many insects may originally have so become inhabitants. It is, therefore, the duty of our Faunists to enrol them as such; taking good care to notice the peculiarities of their times and places of appearance."

Since the above was written, Mr. Joseph Standish has shown me a fine male taken in Blackfriars Road a few years since.

The plant is *Saxifraga tridactylites* (Rue-leaved Saxifrage).



LAMIA NUBILA.

ORDER Coleoptera. FAM. Cerambycidæ *Lat., Leach.*

Type of the Genus Cerambyx Textor Linn.

LAMIA *Fab., Lat., Panz., Sam.*—*Cerambyx Linn., Oliv., Marsh.*

Antennæ inserted on each side the crown of the head, upon the interior margin of the eyes; as long or longer than the body, setaceous, sometimes ciliated, 11-jointed, 1st joint long, very robust, 2nd small, 3rd generally the longest, the remainder decreasing in length to the last which is longer than the antecedent one (fig. 6).

Labrum exserted, obcordate, truncated at the base, scabrous and pilose (1).

Mandibles short, robust, subtrigonal, slightly bent and a little produced or sinuated on the internal margin (2).

Maxillæ small, pilose, bilobed, thickly ciliated; superior lobe obovate. *Palpi* longer than the maxillæ, 4-jointed, basal joint short, 2nd and 3rd rather robust, of equal length, subpyriform, 4th the longest, subfusiform, truncated (3).

Mentum small transverse rigid pilose and elevated at the base.

Lip as broad as the mentum, suborbicular, very pubescent at the apex, narrowed at the base. *Palpi* short, inserted towards the middle of the lip, 3-jointed, basal joint minute, 2nd robust clavate, 3rd robust subovate (4).

Head short, vertical. Eyes lateral, narrow, emarginate on the internal side next the antennæ (7*, the head in profile). Thorax as broad or broader than the head, cylindric, sometimes spined on each side (9). Scutellum minute. Wings? 2. Coleoptera broader than the thorax, convex, elongate oval. Legs robust. Thighs scarcely clavate. Tibiæ simple, clavate truncate. Tarsi 4-jointed, 3 first joints broad with cushions beneath, the 1st and 2nd joints short, 3rd bilobed, terminal joint long clavate. Claws short. Pulvilli none (5, a fore leg).

NUBILA *Gmel.* 1832. 72. *Marsh.* 332. 13.—*nebulosa Fab. Ent. Syst.* 1. pars 2. 277. 38.

Dark ochre, pubescent. Head not punctured, with 4 short black stripes on the crown: eyes black. Thorax subquadrate, not spined, coarsely and sparingly punctured, with 4 black stripes down the back. Scutellum orange, black on the sides. Elytra sparingly and coarsely punctured with black, an interrupted white fascia across the middle, partially margined with black, 4 white spots surrounded with black near the scutellum and several others and 2 black sinuated strigæ towards the apex. Antennæ ciliated on the external side, castaneous, basal joint variegated with white, 3rd joint whitish at the base, the remainder with the basal half pearly white, excepting the last joint which is entirely white. Thighs and Tibiæ ochraceous variegated with black. Tarsi black, 1st, 2nd and 4th joints white at their base.

In the Cabinets of Mr. Raddon and the Author.

THIS fine genus contains about forty named extra-european species, some of which are ranked amongst the most beautiful of the Coleoptera: there are also seven or eight species inhabiting Europe, two of which only have been detected in Britain, viz:

1. *L. Textor* Linn.—Panz. 19. 1.—Samouelle's *Ent. Comp.* pl. 2. f. 24.

This species has nothing to recommend it but its size and rarity; it has occurred near Bristol and at Lymington in Hampshire, upon the trunks of willow trees in June.

2. *L. nubila* Gmel.

We are not aware that any figure has been given of this rare and beautiful insect by any of our English authors: and the representations of it in Olivier and Schæffer by no means do it justice, in consequence of their being drawn from dead specimens, the insect fading soon after it is deprived of life. Through the politeness of Mr. Raddon, we are enabled to give a portrait from a living specimen, that gentleman having received two in April last from Bewdley near Worcester; it has been taken also at Coombe Wood in June upon the trunks of trees, and we think also at Darent.

The *Cerambycidæ* in the larva state do incredible mischief to timber: and we cannot conclude this paper without referring our readers to the 13th volume of the Linnean Transactions for the natural history of *L. amputator* Fab., accompanied by figures of the egg, larva, pupa and imago of that insect, communicated by the Rev. Lansdown Guilding from the Island of St. Vincent.

Orobis tuberosus (Heath or Wood-pea) is figured in the plate.



SAPERDA ATKINSONI.

ORDER Coleoptera. FAM. Cerambycidae *Lat., Leach.*

Type of the Genus, Cerambyx scalaris Linn.

SAPERDA *Fab., Oliv., Panz., Leach, Gyll.*—*Lamia Lat.*—*Cerambyx Linn., Marsh.*

Antennæ inserted on the inner margin of the eyes, as long or longer than the body, setaceous, slightly hairy; 11-jointed, basal joint robust, 2nd subglobose, 3rd the longest, remainder decreasing in length to the end (6).

Labrum pocket-shaped, covered and ciliated with long and fine hairs (1).

Mandibles rather slender, subtrigonal, bent and acute at the apex, externally pilose (2).

Maxillæ small with an internal lanceolate and ciliated lobe and a rounded external one. *Palpi* long, 4-jointed, basal joint slender clavate, the remainder of nearly equal length, the 2nd and 3rd being somewhat clavate, the 4th subfusiform (3).

Mentum short, transverse, producing long and fine hairs. *Lip* long and large, horny and narrowed at the base; dilated, membranous, pubescent and hexagonal beyond the middle. *Palpi* robust and rather long, inserted near the middle of the lip, tri-articulate, basal joint small, 2nd and 3rd long and pilose, the former clavate, the latter subfusiform, with a vesicle at the apex (4).

Head short, deflexed vertically; face flat. Eyes kidney-shaped, receiving the antennæ. Thorax cylindric without spines. Scutellum small, obtrigonal truncate. Body cylindric. Elytra long linear, convex or quadrate. Wings ample. Legs strong. Tibiæ, anterior with two minute spines towards the apex. Tarsi thickly clothed with bristles beneath, 4-jointed, 1st and 2nd joints of equal size in the anterior pair, the 1st joint the longest in the others, 3rd joint bilobed, 4th clavate. Claws hooked, with a tooth at the base (5).

ATKINSONI *Nob.*

Black, completely clothed with short depressed ochreous pubescence, with a dull greenish tint. *Palpi* piceous; tips of mandibles and eyes black. Antennæ subferruginous, except the 3 first joints. Thorax punctured, with a central channel at the base. Elytra broadest and square at the base, each shoulder black at the tip as if rubbed, there are also 2 slight black dots at the middle near to the suture, and 2 further apart, nearer to the apex.

In the Author's Cabinet.

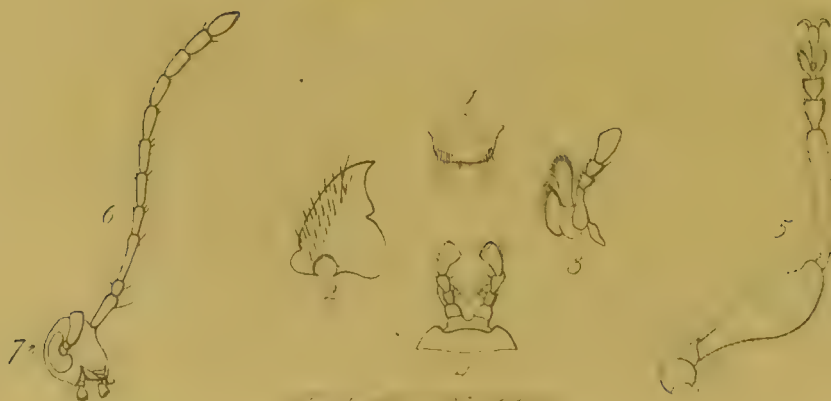
SAPERDA is so closely allied to *Lamia* in the structure of the trophi, that Latreille considered it to form only a division of this genus, the only distinction of any importance being the

uniformity of the terminal joints in all the palpi. The Saperdæ are distinguished by their long and linear form, the shoulders being very high, and the thorax, which is cylindrical, is never spined.

The following species have been discovered in Britain:—

1. *S. Carcharias* Linn.—Panz. 69. 1.—*similis* Lat.—July, trees in Dean Forest, Gloucestershire; and the Rev. L. Jenyns informs me that specimens were taken on a post near Cambridge, in August last.
2. *S. Atkinsoni* Nob.—Until I obtained authentic specimens of *S. Tremulæ* from Germany, I considered this insect to be a variety only of that species; but as I now believe it to be quite distinct and undescribed, I have named it after my esteemed and lamented young friend the late Mr. John Atkinson of Grove-end, to whom I was indebted for this valuable acquisition.
3. *S. scalaris* Linn.—Don. 11. 393.—Panz. 49. 3.—This insect is not uncommon near Cockermouth; the late Mr. J. Atkinson of Leeds took one near Bolton, the end of June, and Mr. Hobson has presented me with a fine specimen taken in Kersal Moor Clough, near Manchester.
4. *S. populnea* Linn.—Panz. 69. 7.—Not uncommon upon Aspen trees in Coomb Wood, near London, and in Sexton Wood, Suffolk, in May and June.
5. *S. Cardui* Linn.—Panz. 69. 6.—*lineato-collis* Don. 6. 209.—Taken in May, June, and July, by the Rev. R. Sheppard, at Barton St. Mary, Norfolk, upon *Heracleum Sphondylium*, and by Mr. Dale in Clapham Park Wood, Bedfordshire.
6. *S. ferrea* Schrank.—Panz. 97. 15.—Mr. R. Wood of Manchester took specimens the end of July 1828, at Cattrel Clough, near Wilmslow; and I am indebted to him for a fine pair of this insect, which is new to Britain. I am informed by Mr. Davis that it has since been captured by Dr. Howitt in Sherwood Forest, near Nottingham, upon *Tilia parvifolia*; and Dr. Stephenson has found another.
7. *S. cylindrica* Linn.—Panz. 69. 4.—This I have taken early in May, upon Nettles in different parts of Norfolk. Roesel says the larva feeds upon the pith of the Raspberry.
8. *S. oculata* Linn.—Don. 9. 305.—Panz. 1. 18.—Found in June, upon trunks of willows, in the Isle of Ely, Cambridgeshire.
9. *S. præusta* Linn.—Oliv. 4. No. 68. pl. 1. f. 6.—Schæf. 52. 8.—*Tetrops præustus* Kirby. May, June, and July, White-thorn hedges, Kent and Norfolk.

The plant is *Tragopogon pratensis* (Yellow Goat's Beard).



CALLIDIUM STRIATUM.

ORDER Coleoptera. FAM. Cerambycidæ *Lat., Leach.*

Type of the Genus, Cerambyx Bajulus Linn.

CALLIDIUM *Fab., Lat., Oliv., Panz., Leach, Sam., Gyl., Steph.*—*Cerambyx Linn., Marsh., Don.*

Antennæ inserted close to the inner margin of the eyes, sometimes not much longer than the thorax; nearly filiform, the apical joints compressed; 11-jointed, basal joint rather more robust than the following, 2nd subglobose, 3rd the longest, 4th short, the remainder rather longer, terminal joint subconic compressed (6).

Labrum transverse-oblong, slightly narrowed anteriorly, the angles rounded and pilose, with 2 small pencils of hair near the middle of the margin (1).

Mandibles porrected, trigonate, acute with a strong notch on the internal margin, externally pilose (2).

Maxillæ small, with a long ciliated lobe on the inside and terminated by an elongated and ciliated one. *Palpi* longer than the maxillæ, robust and 4-jointed, basal joint minute, 2nd and 3rd subtrigonate of equal size, 4th the largest, somewhat hatchet-shaped (3).

Mentum broad, transverse, very short, the anterior angles slightly produced. *Lip* cordate, or bilobed and ciliated. *Palpi* attached to 2 large scapes inserted near the base, triarticulate, clothed with a few fine hairs, basal joint small, 2nd rather larger obovate-truncate, 3rd the largest, somewhat hatchet-shaped (4).

Trophi small. Head short. Eyes reniform (7*). Thorax suborbicular depressed. Scutellum subtrigonate. Elytra elongate, somewhat depressed and not covering the apex of the abdomen. Wings ample. Thighs robust clavate. Tibiæ slender and simple. Tarsi short, 5-jointed, basal and 2nd joints obtrigonate, the former the longer, 3rd bilobed, 4th very minute, truncated obliquely, forming the base of the 5th which is not longer than the 1st and clavate. Claws simple (5).

STRIATUM *Linn. Faun. Suec. 668.*—*Gyll. 4. p. 80. n. 10.*—*Panz. 70. 13.*

Dull black, excessively thickly punctured and clothed with extremely short hoary pubescence. *Antennæ* not much longer than the head and thorax; a channel between the eyes terminating in a triangular impression upon the clypeus. Thorax with a broad shallow groove down the middle and an obscure fovea on each side behind. Elytra transversely rugose; three longitudinal elevated lines on each, with 3 alternate ones less raised. Tarsi testaceous at the apex.

In the Cabinets of Mr. Lyell and the Author.

THIS genus is distinguished by its more depressed form, orbicular thorax and shorter antennæ; it completes the illus-

tration of a series of the Cerambycidae, which has been given in the "Guide;" and by referring to the other plates it will be seen that the natural situation of *Callidium* is between *Saperda* and *Clytus*, *Obrium* following and connecting *Molochus*.

Mr. Kirby has given the history of one of the species in the Linnean Transactions, where figures and dissections of the larvæ will also be found.

The following species have been detected in Britain.

1. *C. striatum* Linn.—Curtis Brit. Ent. pl. 295.—*agreste* Fab.—*rusticum* Steph.

The black colour and greater number of elevated striæ on the elytra will distinguish this from *C. rusticum*. Two specimens were taken at Kinnordy in Scotland, and one of them was kindly presented to me by Mr. C. Lyell. It is not uncommon in Sweden.

2. *C. Bajulus* Linn.—Panz. 70. 1.—*similis* Marsh. var.

Common round London on old posts and paling in June. Mr. Spence observes in the Introduction to Entomology, that "The larva of *C. Bajulus* sometimes does material injury to the wood-work of the roofs of houses in London, piercing in every direction the fir rafters; and when arrived at the perfect state, making its way out even through sheets of lead one-sixth of an inch thick, when they happen to have been nailed upon the rafter in which it has assumed its final metamorphosis."

3. *C. violaceum* Linn.—Don. 2. 64. f. 1.—Linn. Trans. v. 5. tab. 12.—Panz. 70. 4.

I once found a single specimen in Norfolk; and it has been taken at Manchester in May; and occasionally in the neighbourhood of London plentifully: it inhabits dead fir-trees.

4. *C. sanguineum* Linn.—Don. 16. 553. f. 1.—Panz. 70. 9.

It has been taken in Anglesea and Devon, and is sometimes found in oak-timber.

5. *C. variabile* Linn.—*fennicum* Linn.—Panz. 70. 2.—*testaceum* Linn. var.—*præustum* Fab. var.—*luridum* Payk. var.

For specimens of this insect I am indebted to a lady, who finds them constantly feeding on the solid wood of the Birch. It is said to have been found upon Oak in Hainault Forest, Essex, in August; and a variety in trees at Battersea in June.

6. *C. russicum* Fab.—Oliv. v. 4. No. 70. pl. 4. f. 49.

This is introduced on the authority of Mr. Stephens. Fabricius states that the insect he described, from the cabinet of Mr. Lee, came from Russia.

7. *C. Alni* Linn.—Panz. 70. 20.

Found in June upon faggots and hurdles in Woods, Norfolk, &c.

8. *C. luteum* Steph.

The plant is *Stellaria graminea* (Less Stitchwort).



CLYTUS QUADRIPUNCTATUS.

ORDER Coleoptera. FAM. Cerambycidæ *Lat., Leach.*

Type of the Genus Cerambyx Arietis Linn.

CLYTUS *Fab., Leach, Gyll.*—*Callidium Fab., Lat., Oliv., Panz.*—*Cerambyx Linn., Marsh.*—*Leptura Linn., Gmel., Rossi, Don.*

Antennæ inserted in front of the head close to the internal margin of the eyes, not so long as the body, subclavate or filiform, pubescent towards the base, 11-jointed, 1st joint long, bent, robust, 2nd subglobose, 3rd as long as the 1st but slender, 4th and 5th slender, shorter than the 3rd; the remainder decreasing in length, apical joint subconic (fig. 6).

Labrum transverse-oval, the base corneous, surrounded by a dilated membranous oval margin, the anterior portion clothed and ciliated with hair (1).

Mandibles trigonate, bent and acute at the apex, producing a few coarse bristles on the external side, the internal edge sinuated (2).

Maxillæ terminated by 2 large lobes, the internal one being the smaller and densely clothed with hair on the inside and at the apex, the external lobe dilated and divided at the apex, which is very pubescent also. *Palpi* not so long as the maxillæ, robust, 4-jointed, 3 first joints very short, 4th large subsecuriform and wedge-shaped (3).

Mentum broad and short, the sides lobed, anterior margin straight, producing a few long hairs in the centre. *Lip* membranous, bilobed, covered and ciliated with hairs. *Palpi* remote, robust, arising from the base of the lip, 3-jointed, basal joint short, 2nd obconic, 3rd large subsecuriform and wedge-shaped (4).

Head short, nutant. Eyes reniform. Thorax globose. Elytra elongate, not covering the apex of the abdomen. Wings ample. Scutellum small. Legs; anterior the shortest, posterior very long. Thighs clavate. Tibiæ with small spurs. Tarsi with cushions beneath, 4-jointed, anterior dilated, basal joint in the posterior pair long, penultimate joint in all bilobed. Claws strong. Pulvilli none (5, a fore leg).

QUADRIPUNCTATUS *Fab. Ent. Syst. l. pars 2. 337. 78.*—*nævica Gmel.*—*villosa Rossi.*

Black, slightly covered with somewhat hoary pubescence. *Antennæ* filiform. Thorax and Elytra densely covered with greenish ochreous pubescence, excepting 3 black spots on each down the back, and one at the shoulder.

In the Cabinet of Mr. Sparshall.

CLYTUS is distinguished from *Callidium*, which it most resembles, by its more cylindric form; and the globose thorax is a character which at once enables us to separate these from the other insects of the same family.

The following species have been taken alive in this country, but as *C. erythrocephalus* is a native of Georgia, and *C. fulminans* is a North American species also, it is possible they may have been imported in timber, in which they were bred.

1. *C. fulminans* *Fab.*—*Oliv.* 4. t. 5. f. 63.—*Sowerby Brit. Misc. tab.* 58.

“A specimen of this elegant insect (says Mr. Sowerby) was found by a young lady upon some flowers in a garden at Kensington. It is now in the cabinet of the Rev. W. Kirby.”

2. *C. arcuatus* *Linn.*—*Marsh.*—*Don.* 3. 84. 1.—*Panz.* 4. 14.
—*lunatus* *Gmel. Fab.*—*detritus* *Lat.*

This very local insect appears in June, and is occasionally found in abundance. I once captured a considerable number in a very hot day running over the trunk of a felled tree near a wood in the neighbourhood of Bungay in Suffolk.

3. *C. Arietis* *Linn.*—*Marsh.*—*Oliv.*—*Don.* 1. 27.—*Panz.* 4. 15.—*Gazella Fab.*

This, which is called the Wasp-beetle, is the commonest of the genus, being found on sunny days in June and July in gardens, orchards, roads, &c., but generally upon the trunks of trees; it runs with great celerity and flies well. Donovan says, “they are exceedingly numerous in Kent, in the pease and bean fields, in May, or on the currant bushes, and are not unfrequently taken on the fern.”

4. *C. 4-punctatus.*

The specimen figured of this valuable insect, was found alive last year upon a window by a gentleman in Norwich, and was given to Mr. J. Sparshall, to whom I am indebted for the opportunity of making a drawing of it.

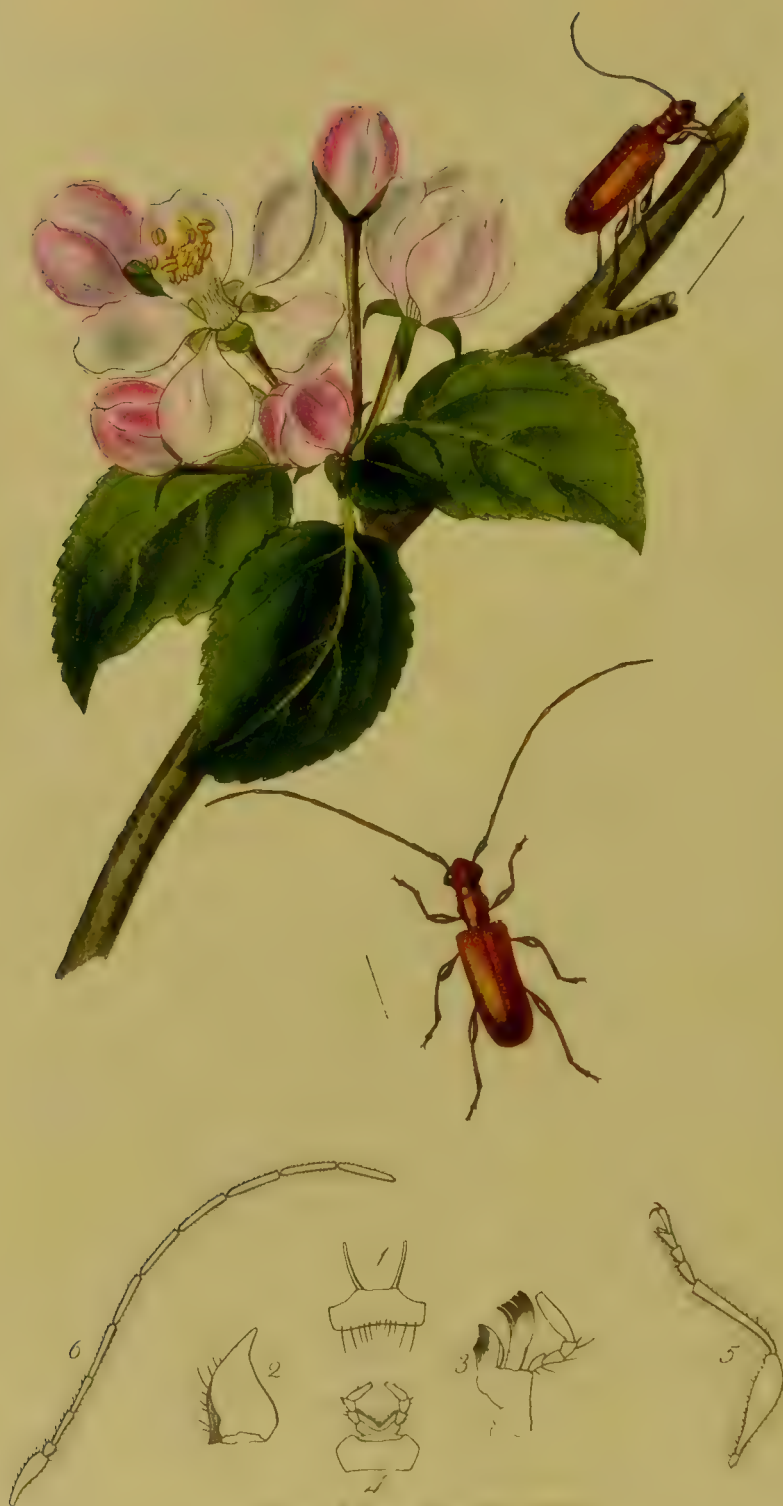
5. *C. mysticus* *Linn.*—*Marsh.*—*Don.* 3. 84. 2.—*Panz.* 82. 9.
quadricolor *Scop.*—*litteratus* *Gmel.*

This is by no means an uncommon insect round London, especially at Darent in Kent, where it is met with upon the trunks of trees in open pathways near the wood, and upon bushes in the gardens, hedges, &c. in May, June and July.

6. *C. erythrocephalus* *Fab.*—*Oliv.* 4. t. 5. f. 60.—*americanus* *Gmel.*—*acuminatum* *Fab.*

Mr. Sparshall's cabinet contains a single specimen of this insect, taken alive a few years since in Epping Forest by Mr. Doubleday.

The plant is *Chelidonium majus* (Greater Celandine).



Subsp. n. Currier, London, Nov. 1825

OBRIUM CANTHARINUM.

ORDER Coleoptera. FAM. Cerambycidæ *Lat., Leach.*

Type of the Genus Cerambyx cantharinus Linn.

OBRIUM *Megerle.* *Saperda Fab., Panz.* *Callidium Fab.* *Cerambyx Linn.*

Antennæ inserted in a notch in the eyes, as long as the body in the females, longer and more slender in the males; 11-jointed, hairy, 2nd joint the smallest, 5th the longest (fig. 6).

Labrum small, transverse, hairy (1).

Mandibles bent, acute, somewhat trigonate (2).

Maxillæ terminated by 2 lobes, ciliated with strong hairs, the internal one short, somewhat acute, the other long, curved and truncated. *Palpi* 2, 4-jointed, the 3 first joints short, somewhat clavate with a few bristles, the terminal joint long, robust, attenuated towards the extremities, truncated (3).

Mentum transverse, rounded at the sides, emarginate before.

Lip bilobed, ciliated. *Palpi* 3-jointed, 2 first joints short, 3rd somewhat elongate, ovate-truncate (4).

Head nutant trigonate. Eyes emarginate on the internal edge. Thorax longer than broad, produced on each side, but not spined. Scutellum small. Body elongate, nearly cylindric. Elytra long, twice the breadth of the thorax, having a truncated appearance before and rounded at the apex. Wings 2. Thighs clavate. Tibia simple. Tarsi composed of 4 joints, of which the 1st is the longest, the 3rd bilobed, 4th slender. Claws small (5 a fore leg).

CANTHARINUM *Linn. Syst. Nat.* 2. 637. 82.—*brunnea Fab. Ent. Syst.* v. 1. pars 2. p. 316. n. 45. *Panz.* 34. 15: *mas.*—*ferruginea Fab. Ent. Syst.* v. 1. pars 2. 316. 44. *Panz.* 34. 14: *fem.*

Mas: ochraceous-ferruginous, shining, pilose, head and thorax somewhat more brilliant than the elytra, which are irregularly punctured. Eyes black. Legs brown, inclining to ferruginous. Antennæ brown, deepest towards their base. *Fem*: twice or thrice the size of the male. Head and thorax punctured. Antennæ and legs black; two terminal joints of the tarsi rufous.

In the Cabinets of Mr. Sparshall and the Author.

ALTHOUGH I have not seen Megerle's characters of the genus *Obrium*, I have no hesitation in adopting it, since the long and dilated, or subspino-se thorax as Fabricius terms it, neither agrees with *Saperda* nor *Callidium*; and the length of the 5th joint of the antennæ appears to be a peculiar character. De-

jean, however, has included in this genus, *Cerambyx minutus* (*Callidium pygmaeum* F), which I suspect belongs to another group.

The two insects figured in the plate (which are perfectly new to Britain) having been found on the same spot, I have considered them as the sexes, although Fabricius and Panzer have described them as distinct species, calling the male *Saperda brunnea*, and the female *S. ferruginea*; and Linnæus having first described the latter under the name of *C. cantharinus*, his specific name has here been restored.

Mr. Joseph Sparshall informs me that a male and female of our insect were taken by Mr. Henry Doubleday in a garden at Great Coggeshall, Essex, the 15th of July 1823, resting upon the leaves of an apple-tree: another male was found upon a plant close to the same tree the 10th of August in the following year; and Mr. Blunt captured a female last year about the end of July, which was sticking to the bark of an aspen-tree near Wanstead House, Essex.

Pyrus malus (Crab-tree) accompanies the insects; the upper figure representing the female, the lower one the male.



Aspilota laticincta Muesebeck

MOLORCHUS MINOR.

ORDER Coleoptera. FAM. Cerambycidae Lat.

Type of the Genus *Necydalis Umbellatarum* Linn.

MOLORCHUS Fab. *Necydalis* Linn., Lat.

Antennæ inserted in a notch in the eyes, somewhat setaceous, varying in length, first joint thick, second very small, third and following long, cylindric and rather clavate.

Labrum very minute, hairy and dilated very much in front, cordiform. (1.)

Mandibles short, triangular, slightly hooked. (2.)

Maxillæ crustaceous at the base, with 2 coriaceous lobes, the external one the largest, regularly ciliated. (3. a.) *Palpi* 2, the first 3 joints small, the last thick, ovoid, compressed and truncated. (3. b.)

Mentum broad, convex at the sides, emarginate before. (4. a.)

Lip coriaceous, 2-lobed. (4. b.) *Palpi* 2, inserted before the lip, short, 3-jointed, formed like the others. (4. c.)

Head sloped off before. Thorax without spines, nearly orbicular. Body elongate, narrow, subcylindric. Elytra abbreviated, gaping at the apex. Wings longer than abdomen, not concealed, but folded upon and covering the abdomen when at rest. Anterior legs shortest, posterior longest; thighs very much clavate. Tarsi 4-jointed, spongy beneath, the third joint deeply divided, the last rather long, terminated by 2 claws. (5. a fore-leg.)

M. MINOR Linn. *Syst. Nat.* 2. 641. 2.

M. dimidiata Fab. *Ent. Syst. t. 1. pars 2. p. 357. 3.*

Black, shining, pubescent. Head and thorax minutely punctured, the latter cylindric, oval-truncate, having 2 longitudinal shining lines near the centre. Elytra dark chesnut, with an oblique light spot upon each: the tips thicker and darker. Wings fuscous. *Antennæ* ferruginous. Legs bright chesnut, the thighs clavate towards the joint and black. *Tibiæ* hairy.

In the Cabinet of the Author.

THE genus *Necydalis* of Latreille ought probably to be divided: I have therefore adopted Fabricius's generic name for the

species with short elytra; and those with long and subulated elytra (*N. rufa* Linn. &c.) may retain their original appellation of *Necydalis*, should such a division be found advisable.

Of this singular genus there are but two species in Britain: *M. minor* figured in the plate (the smaller one being the natural size) was taken in June 1823 upon the blossoms of a tree in the beautiful and ornamental grounds of John Walker, Esq., at Arno's Grove, and communicated to me by Mr. Edwin Walker, to whose liberality I am indebted for several rare and interesting insects. *M. Umbellatarum* has been taken in the lane leading to Darent Wood, Kent, upon the dead branches of an old tree, where probably it bred; and several specimens were found also by myself in a hot day in June, upon an umbelliferous plant in a garden adjoining the same lane.

The plant introduced with the Insect is *Æthusa Cynapium* (Fools' Parsley).



RHAGIUM INQUISITOR.

ORDER Coleoptera.

FAM. Lepturidæ.

*Type of the Genus, Leptura Inquisitor Linn.*RHAGIUM *Fab., Gyll., Serv., Curt.*—*Stenocorus Oliv.*—*Leptura Linn., Lat., Mars.*

Antennæ not longer than the thorax, inserted in the middle of the face, between the eyes, approximating, filiform, 11-jointed, basal joint the longest and stoutest, 2nd small, cup-shaped, 3rd oblong, 4th rather shorter, 5th longer than the 3rd, three following as long as the 3rd, the remainder decreasing in size, the apical joint ovate-conic (6).

Labrum semiorbicular, densely ciliated and hairy, the centre sharply notched (1).

Mandibles strong and trigonate, the apex clawed, inner margin sinuated, with a long space densely ciliated (2).

Maxillæ terminated by 2 small lobes, the inner one strongly ciliated and woolly at the apex, the other surrounded by a large woolly brush. *Palpi* rather short stout and 4-jointed, basal joint pyriform, 2nd a little longer, 3rd scarcely so long, both clavate, 4th the longest, clavate-truncate (3).

Mentum transverse, semi-ovate, hairy. *Lip* large, bilobed, being cleft nearly to the base, densely ciliated. *Palpi* short clavate, triarticulate, seated at the base of the lip, remote, basal joint small, 2nd larger with a few long hairs, both subpyriform, 3rd much the largest, somewhat hatchet-shaped (4).

Head rather large, orbicular-quadrate, the base suddenly narrowed into a small neck: eyes very remote from the base, nearly lateral and ovate, slightly concave inside, rather small but prominent. Thorax cylindric, constricted before, sides convex at the middle, each producing a triangular spine: scutel semioval. Elytra twice as broad as the thorax, elliptic, truncated at the base, slightly tapering, the apex rounded: ovipositor long and slender. Wings ample. Legs long and robust: thighs stout, a little incrassated at the middle, slender at the base: tibiæ simple, clavate, with short spurs at the apex: tarsi not long but broad, 4-jointed, basal joint obovate-truncate, 2nd semiovate-lunate, 3rd bilobed, 4th clavate, with an obscure scape or joint at the base: claws small and acute (5† hind leg).

INQUISITOR *Linn.*—*Curt. Guide Gen.* 413. 2.

Black, densely clothed with very short ochreous pubescence; antennæ silky: head and thorax punctured, the former with a fine channel down the crown: elytra coarsely punctured, speckled with black, 2 elevated lines on each side of the suture vanishing at the base and towards the apex, 2 curved deep ochreous fasciæ across the middle, interrupted at the suture, with a deep black ovate spot between them on each side.

In the Author's and other Cabinets.

THE Lepturidæ form a much smaller tribe than the Cerambycidæ, to which they are nearly allied. Their larvæ are internal feeders, and the species belonging to the group before

us are found in their different stages in soft decayed wood, often in the moist stumps of alders and willows. The beetles I have dug out of such situations early in the spring, but later in the year they are generally found on flowers or upon the trunks of trees.

The three British species comprised in the genus *Rhagium* are distinguished by their short antennæ, having the 5th joint longer than the adjoining ones; the head is comparatively large, the thorax spined, and the elytra rather broad and less attenuated than the rest of the family, and the palpi are truncated, the labial being hatchet-shaped.

* *HARGIUM* Leach. *Antennæ with the 5th joint stouter than the 4th.*

1. *Indagator* *Fab.*—*Panz.* 82. 5.—*minutus* *Fab. var.*

Shining black, hairy, punctured; basal and anterior margins of thorax ferruginous; elytra dull purplish, with 2 indistinct ochreous bands across the middle, and numerous spots and marks of the same colour; 3 elevated lines on each, the 2 outer ones uniting before the apex: length 6 to 9 lines.

I do not remember having seen a specimen of this insect that was taken in England, but in Scotland it is said to be common: the Rev. W. Little has taken it in abundance on Raehills.

** *Antennæ filiform, scarcely longer than the thorax.*

2. *Inquisitor* *Linn.*—*Curt. B. E. pl.* 750.—*vulgare* *Leach.*

May and June on umbelliferous flowers, also on those of the mountain-ash and white-thorn, and on the trunks of ash-trees in Coomb Wood, the New Forest, Norfolk, and various parts of England: in decayed fir and birch trees in the winter, together with the following species on Raehills, Rev. W. Little.

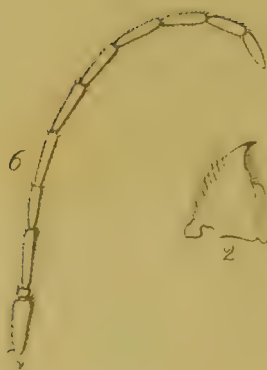
*** *Antennæ slender, longer than the head and thorax.*

3. *bifasciatum* *Fab.*—*Don. v.* 3. *pl.* 94. *f.* 1.—*nigrolineata* *Don.* 10. *pl.* 353. 1.—*bimaculata* and *dorsalis* *Marsh. Don.* 11. *pl.* 395. 1. *vars.*

Brassy black above, punctured, with fine long hairs; spines of thorax inclining backward: elytra coarsely punctured, with 3 slightly elevated lines on each, approximating towards the apex, sides pale castaneous, with 2 ochreous sub-lunate patches before, and 2 beyond the middle; antennæ and legs pale castaneous: thighs blackish, excepting the base: length 7 to 9 lines.

An exceedingly variable species, found with the last in every part of England, I believe, in May and June; in decayed trees in abundance, at Wroxham and Horning, Norfolk; also under the bark of ash-trees.

The Plant is *Sium latifolium*, Broad-leaved Skirrett.



Chrysomelidae

LEPTURA APICALIS.

ORDER Coleoptera. FAM. Lepturidæ.

Type of the Genus, Leptura elongata DeGeer.

LEPTURA Linn., Curt., &c.—Pachyta Meg., Curt.

Antennæ inserted near to, and between the eyes, nearly or quite as long as the body, slightly attenuated, clothed with very short pubescence, 11-jointed, basal joint long and robust, 2nd subglobose, 3rd as long as the 1st; 4th shorter than the 5th, the remainder slightly decreasing in length, the apical joint subconical (6).

Labrum pilose transverse, anterior margin concave ciliated (1).

Mandibles small, trigonate, slightly bent and very acute at the apex, internal margin densely ciliated to the middle, where it is produced, thin and coriaceous (2).

Maxillæ long slender and bilobed, internal lobe lanceolate and densely ciliated; external lobe linear, rounded at the apex and clothed with long pubescence. *Palpi* slightly pilose, 4-jointed, basal joint short, 2nd and 3rd elongate-obtrigonal, the latter the shortest, 4th the longest suboval (3).

Mentum semiorbicular, anterior margin a little produced, straight and transparent, the sides slightly pilose. *Palpi* attached to scapes, rising from behind the mentum, pilose, triarticulate, basal joint small, 2nd and 3rd somewhat elongate-ovate, the latter the largest. *Lip* large subcordiform and pubescent (4).

Head rather elongated, the mouth being a little produced. Eyes nearly globose. Thorax subconic, truncated before, the base rather sinuated, the angles acute. Scutellum triangular. Elytra broader than the thorax, elongated, sometimes attenuated, and concave at the apex with a spine on each side. Wings ample. Legs long. Thighs sometimes incrassated, especially the hinder pair. Tibiæ spurred, hinder pair sometimes emarginate and toothed on the inside in the male (5). Tarsi 5-jointed, basal joint very long in the hinder pair, 3rd bilobed, 4th minute, 5th long slender and clavate. Claws bent and acute.

APICALIS Haw., Mss.—Curtis's Guide, Gen. 415. 4.

Black shining, clothed with short depressed ochreous hairs, thickly and minutely punctured. Antennæ with 2 or 3 of the apical joints more or less fulvous. Thorax with a large fovea on each side, and one in the centre at the base, with a deep transverse channel, the angles acuminate. Elytra emarginated at the apex, the points short, with 4 sinuated and interrupted orange-coloured fasciæ, the basal one divided longitudinally at the shoulder, and the 4th not touching the apex. Tibiæ and tarsi clothed with ochreous pubescence.

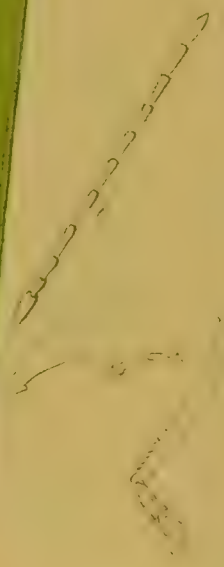
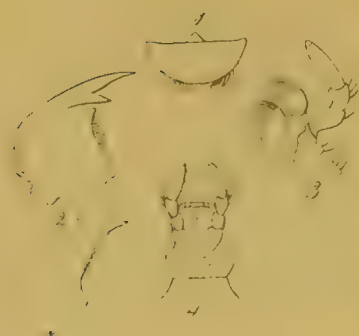
THE hatchet-shaped palpi distinguish *Toxotus* from *Leptura*, and this Genus has not the sides of the thorax tuberculated, excepting slightly in *L. elongata*, the male of which species is also remarkable for the singular structure of the posterior tibiæ.

The larvæ of the Lepturæ live in wood, and the Beetles are either found in the trunks of trees or upon flowers.

1. *L. elongata* DeG.—Don. 3. pl. 84. f. 4. Very common on umbelliferous plants in May, June and July.
2. *L. attenuata* Linn.—Oliv. 4. No. 73. pl. 1. f. 8. Rare; in June I believe at Darent.
3. *L. 4-fasciata* Linn.—Sam. pl. 2. f. 26.—Oliv. pl. 2. f. 17. July and August, umbelliferous plants; Colney Hatch, and in decayed trees on marshes at Horning, Norfolk.
4. *L. apicalis* Harw. Mss.—Curtis's Brit. Ent. pl. 362.
Rare at Windsor, the New Forest, and New Lanark, Scotland, H. Walker, Esq. This species is more robust than No. 3, and the bars are of a fine orange colour; yet I cannot think that it is any more than the female, or a variety of it, or it may be a hybrid between that insect and the following, which sometimes has the antennæ black, at others entirely orange.
5. *L. aurulenta* Fab.—Panz. 90. 5. First taken by Miss Hill in meadows near Bideford, afterwards by Capt. Blomer on the banks of the Torridge, and also in decayed trees in the New Forest.
6. *L. revestita* Linn.—villica Panz. 22.13. June, stump of an apple-tree, Windsor, and Colney Hatch.
7. *L. virens* Linn.—Panz. 69. 13. Recorded as British.
8. *L. scutellata* Fab.—Panz. 69.15. June, Epping Forest; and in the same month and in August I found a considerable number dead under the bark of a decayed beech-tree in the New Forest.
9. *L. tomentosa* Fab.—Oliv. pl. 2. f. 13. c. June, climbing up grass near Haslar Hospital, Waller Clifton, Esq.
10. *L. sanguinolenta* Linn.—Don. 16. 557.—Panz. 69. 8 ♀. June, in gardens at Norwich, and Bungay, Suffolk.
11. *L. melanura* Linn.—Panz. 69.19. ♀. June and July.
12. *L. nigra* Linn.—Panz. 69. 18.—b. June, near Lyndhurst.
13. *L. lævis* Fab.—Panz. 34. 15. June and July, common.
14. *L. præusta* Fab.—Panz. 34.16. May and June, New Forest, J. C. Dale, Esq.; and August, out of the beech.
15. *L. femorata* Fab.—Oliv. tab. 2. f. 15.—varians Meg. June, flowers, Darent and New Forest, J. C. Dale, Esq.
16. *L. pallipes* Curt. Guide, 415. 15. Length 3 lines. Slender, slate-coloured, clothed with very short ochreous hairs, thickly punctured: mouth, antennæ, and legs, excepting the coxæ, bright ochre. The only specimen I have ever seen I took in Norfolk in 1809.
17. *L. ruficornis* Fab.—Ahr. 12. 12. June and July, common.
18. *L. sexguttata* Fab.—Panz. 69. 22. June, Darent and Birch.
19. *L. livida* Fab.—Oliv. t. 4. f. 50. June and July, common.
20. *L. Pachyta collaris*, Linn.—Oliv. t. 4. f. 44. May and June, Bexley, Mr. Samouelle; Herefordshire, Mr. Newman.
21. *L. octomaculata* Fab.—Don. 10. 353. 2. June.
22. *L. lamed* Linn.—Don. 11. 395. 2.—Panz. 22. 11. In Drury's Cabinet.

The plant is *Scutellaria minor* (Less Scull-cap). Communicated by the Hon. C. A. Harris.

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DONACIA TYPHÆ.

ORDER Coleoptera.

FAM. Crioceridæ.

*Type of the Genus, Donacia crassipes Fab.*DONACIA *Fab., Gyl., Hoppe, Panz., Lat., Curt.*—*Leptura Linn., Mars.*

Antennæ inserted nearly in front of the face, approximating, slightly thickened towards the apex, longer than the head and thorax, pubescent, 11-jointed, basal joint the stoutest and ovate, 2nd the shortest, the remainder more or less clavate, 3rd as long as the 1st, 4th longer, 5th generally the longest, the remainder sometimes slightly decreasing in length, apical joint a little acuminate at the apex (6).

Labrum semicircular, ciliated in front (1).

Mandibles semilunate, very acute at the apex, one finely serrated on the inside (2*), the other bifid, having 2 long sharp teeth at the apex, and a small one on the inside, below which is a membranous ciliated margin (2).

Maxillæ short and broad, terminated by an orbicular articulated lobe, very pilose at the apex and internally, a large ovate lobe on the inside also densely ciliated. *Palpi* longer than the maxillary, triarticulate, basal joint stout, 2nd smaller, both rhomboidal, 3rd elongated compressed and glandular at the apex (3).

Mentum broader than the lip, horny at the base. *Labium* subcordate, large and pilose at the apex, with a fleshy margin beneath. *Palpi* triarticulate, inserted near the middle of the lip, 2 first joints subovate, the 2nd producing a few long bristles externally, 3rd as long as the other two, conical compressed and having a gland at the apex (4).

Head narrower than the thorax, suborbicular: eyes small but prominent, lateral and globose. Thorax cylindric-quadrate, the angles more or less acute. Elytra twice as broad as the thorax, linear, attenuated and sometimes trigonate at the apex, which is emarginate. Wings ample. Thighs clavate, posterior the longest, stout and denticulated beneath in some, especially the males. Tibiæ, posterior crooked, frequently serrated inside towards the apex: tarsi short, broad and 4-jointed, 2 basal joints obtrigonal, 3rd bilobed, 4th clavate: claws curved acute (5†, hind leg).

Obs. The dissections are from *D. cincta Germ.*

TYPHÆ *Ahr.*—*Gyll.*—*Curt. Guide, Gen. 417. 20.*

Green, more or less brassy, clothed with fine grey silky pubescence, excepting the thorax and elytra: antennæ black, base of the joints ferruginous, 5th joint the longest; head with a short deep channel between the eyes, very thickly and minutely punctured, as well as the thorax which is oblong-quadrate, the sides notched, with a depressed line down the back; scutellum black: elytra very finely striated transversely, with numerous lines of deep punctures confused at the base and apex, the external angle being slightly produced; a broad space down the back is generally rosy with an irregular stripe of blue on each side the suture: legs æneous black, posterior thighs not stouter than the others and without teeth, pale ferruginous at the base, the tips and base and sometimes the inside of the tibiæ of the same colour.

In the Author's and other Cabinets.

THE *Donaciæ* are elegant in form and brilliant in colour: they walk slowly, fall when approached, and take wing in hot weather. From recent observations, it is supposed that the larvæ live in the stems of aquatic plants. A contributor to Loudon's Magazine of Natural History has found egg-shaped transparent brown cocoons of *D. micans*?, containing the perfect beetle, in the stems of *Arundo Phragmites*, close to the root, and immersed in the water or mud; and Messrs. Kirby and Spence observe that "the cocoon of *D. fasciata*? (probably *D. Typhæ*) is fastened by one side to the roots or surculi of *Typha latifolia*."

The *Donaciæ* are confined to northern latitudes, and this country is very rich in species.

A. Posterior thighs toothed near the apex. *Gyl.*

1. *crassipes* *F.*—*micans* *Mar.*—On *Sagittaria sagittifolia*.
2. *cincta* *Germ.*—*clavipes* *F.*—B. August, Bungay Common, Suffolk, on *Nuphar lutea*.
3. *dentata* *Hoppe*, *f.* 2.—*bidens* *Gyl.*—B. August, Bungay Common, Suffolk, on a Potamogeton.
4. *angustata* *Kunz.*—*bidens* *Ol.* 4. No. 75. *pl.* 2. *f.* 12.—"Wandsworth Common, and banks of the Thames."
5. *melanocephala* *Mar.* 348. 18.—*Sparganii* *Ahr.*?—May, aquatic plants; common in Norfolk.
6. *Lemnæ* *F.*—*Pz.* 29. 11 & 12.—June, on *Iris Pseudacorus* and Sallows, Norfolk. "Mr. Jeffreys has observed it on the leaves of *Typha latifolia*, feeding on a black species of *Aphis*."
7. *dentipes* *F.*—*Pz.* 29. 5.—June, upon the *Iris* and *Salix viminalis*: also on flowers of *Caltha*, and grasses.
8. *Sagittariæ* *F.*—*Pz.* 29. 7 & 8.—June, on the *Iris*, in Norf.
9. *brevicornis* *Kunz.*—*Gyl.* 4. 674.—"Near Bristol."
10. *obscura* *Gyl.* 3. 654.—"Near Windsor, and in Somerset."
11. *thalassina* *Ger.*—*Gyl.* 4. 675.—"Near Bristol."
12. *impressa* *Gyl.* 3. 655.—"Kensington Gardens, New Forest, and Suffolk."
13. *sericea* *L.*—*Pz.* 29. 2. 3. 4. 6 & 9.—Everywhere in ditches.
14. *micans* *Ahr. in Nov. Act. Hall.* 1. 3. 28. 11.
15. *rustica* *Schu.*—*Hopp.* *f.* 8 & 9. ♂ ♀.—Plants, in ditches, Halvergate, Norfolk, and Greenwich.
16. *nigra* *F.*—*Pz.* 29. 10.—M. June, on reeds, Isle of Wight.

B. Thighs unarmed. *Gyl.*

17. *Menyanthedis* *F.*—*Pz.* 29. 13.—On *Iris*, Norfolk; June, rushes, side of canal, Oxford.
18. *simplex* *F.*—*Pz.* 29. 14.—June, July, ditches, Norfolk.
19. *linearis* *Hopp.*—*Pz.* 29. 15.—May and June, Norfolk.
20. *Typhæ* *Ahr.*—*Curt. B. E.* *pl.* 494.—Taken by S. Sullivan, Esq., at Fulham; b. July, Rougham, Suffolk, E. Bennet, Esq.; and b. June, off leaves of *Typhæ*.
21. *Hydrochæridis* *F.*—*Pz.* 29. 16 & 17.—B. June, rushes, New Forest, and on a bank in Suffolk, J. C.

The Plant is *Typha latifolia* (Great Cat's-tail or Reed-mace).



MACROPLEA EQUISETI.

ORDER Coleoptera. FAM. Crioceridæ, *Lat., Leach.*

Type of the Genus, Donacia Zosteræ Fab.

MACROPLEA *Hoff., Sam.*—Hæmonia *Meg., Lat.*—Rhagium & Donacia *Fab., Panz.*

Antennæ inserted in front of the face, approximating, as long as the body, subfiliform, 11-jointed, basal joint robust ovate, 2nd and 3rd small, subglobose, 4th elongate-obovate, 5th and 6th rather longer, the remainder sensibly longer and attenuated (6).

Labrum thin, somewhat semiorbicular and ciliated (1).

Mandibles small, semilunulate, being very convex externally and acute at the apex, with a membranous margin below the middle, above which there is a notch in one of them only (2).

Maxillæ small, terminated by a broad curved lobe, pubescent at the extremity, a smaller and shorter lobe on the inside, pubescent also. *Palpi* rather short and very robust, 4-jointed, basal joint very short, 2nd and 3rd trapeziform, 4th much longer, subovate, slightly pilose on the inside (3).

Mentum transverse, short, the sides rounded. *Labium* membranous and semiovate. *Palpi* inserted upon 2 large fixed scapes, short, very robust, and biarticulate, basal joint subtrigonal, 2nd subovate, ciliated on the inside, the apex a little produced (4).

Head narrower than the thorax, a little produced beneath. Eyes lateral, small, orbicular and rather prominent. Thorax subquadrate, the sides indented, the angles a little produced. Scutellum triangular. Elytra elongate-ovate, mucronated at the apex. Wings ample. Legs alike in both sexes, long, hinder thighs long, but not incrassated. Tibiæ simple, the hinder pair the longest and crooked. Tarsi long, 4-jointed, 1st and 2nd joints oblong, 3rd very small, somewhat cup-shaped, 4th very long and clavate. Claws strong bent and acute (5).

EQUISETI *Fab. Supp. p. 128.*—*Curtis's Guide, Genus 418. 2.*

Male shorter than the female. Smooth ochreous. *Antennæ* fuscous, the tips of each joint whitish, silvery-glaucous beneath. Head black but hoary, the face concave, with a deep channel between the eyes. Thorax with a ferruginous tint in the middle, longer than broad, the posterior angles acuminate, a shallow and uneven channel down the centre, and an oblong black macula on each side. Scutellum black. Elytra acutely mucronated at the apex; the suture and both sides of it (below the 1st punctured stria which is abbreviated) black; 5 double black rows of large punctures on each, some of them uniting before the apex, and not black at the extremity. Legs with a slight ferruginous tinge, 1st and 2nd joints piceous on the back and apex, 3rd entirely piceous, 4th piceous near the apex. Claws castaneous. Underside silvery glaucous.

In the Cabinets of the British Museum and Mr. Jenyns.

THESE insects, like the *Donaciæ* from which they have been separated, are fond of aquatic plants; both species are rare, and may be distinguished from the *Donaciæ* by the very minute penultimate joint of the tarsi, and the great length of the terminal one: the mucronated elytra, their colour, and the manner in which they are punctured, are characters totally different to the British *Donaciæ*. I shall only observe respecting the trophi, that I could not discover that the mandibles were bifid at the apex.

1. *M. Zosteræ* *Fab. Syst. Eleut.*—*Gyll.* 4. p. 683, 17.—*Ahr. fasc.* 12. *pl.* 14.—*muticum* *Fab. Ent. Syst. v. 1. pars 2. p.* 306, *n.* 11.

About half the size of the following species. Smooth, ochraceous. Head excepting the trophi, black and hoary with 2 elevated lines between the eyes, forming a deep fovea. Antennæ brown, the underside of the 3 first, and the tips of all the other joints ochreous. Thorax not longer than broad, a fine channel down the centre, and an oblique brown line on each side. Scutellum black. Elytra pale ochreous, shining, acutely acuminate at the apex (sometimes with an additional minute tooth), the suture black, and each side below the 1st punctured stria, which is abbreviated; 3 double and 1 single rows of black punctures, and 3 rows not black, less strong and regular than in *M. Equiseti*. The tarsi similarly spotted but fainter. Underside silvery glaucous.

Excepting in size there is so little to distinguish this from the following species, that I think our specimens at least are only varieties, for I have never seen an example with bidentate elytra as described by Fabricius and Gyllenhal. This pretty insect was first discovered in Britain, I believe, by Mr. Spence, who took it in June upon aquatic plants at Kingston-upon-Hull, Yorkshire; it was soon after taken on the banks of the Yare between Thorpe and Norwich, the 14th June, 1811; the Rev. T. Skrimshire met with it near Burnham, and afterwards near Wells in Norfolk, the 29th of May, in salt water ditches. It is said also to inhabit the Horned Pondweed (*Zannichellia palustris*).

2. *M. Equiseti* *Fab.*—*Curt. B. E. pl.* 318.—*appendiculata* *Panz.* 24. 17.—*Zosteræ* *Gyll.* 3. p. 669.

For the loan of this fine insect I am indebted to the Rev. L. Jenyns; a pair were taken in the spring by Professor Henslow, whilst fishing for shells, upon floating weeds in a brook running into the Cam at Backsbite near Cambridge.

A * has been erroneously attached to this species in the 'Guide,' but I do not possess it.

The plant is *Equisetum arvense* (Cornfield Horsetail).



CRIOCERIS PUNCTICOLLIS.

ORDER Coleoptera. FAM. Crioceridæ Lat., Leach.

Type of the Genus, Chrysomela Asparagi Linn.

CRIOCERIS Geof., Oliv., Lat., Panz.—Lema Fab., Panz., Gyl.—Auchenia Mars.—Chrysomela Linn., Don.

Antennæ inserted before the eyes, longer than the thorax, straight and submoniliform, pubescent, 11-jointed, basal joint not larger than the 3rd, the 2nd small subglobose depressed, 3rd rather longer than the 4th, the remainder of equal size, oblong, terminal joint the longest and conical (6).

Labrum suborbicular, straight at the base, and slightly notched at the middle of the anterior margin which is ciliated with strong bristles (1).

Mandibles subtrigonal, curved, bifid at the apex and ciliated on the internal side below the middle, where there is a tooth in one (2).

Maxillæ producing 2 lobes, densely clothed with pubescence at their extremities, external one articulated and curved. *Palpi* not extending much beyond the lobes, 4-jointed, basal joint minute, 2nd robust subtrigonal, 3rd rhomboidal, 4th elongate-oval (3).

Mentum transverse, curved, narrowed anteriorly and concave in front. *Lip* suborbicular, with a groove down the middle, ciliated in front. *Palpi* arising near the anterior angles, short, triarticulate, basal joint subglobose depressed, 2nd subobtrigonal, 3rd a little longer ovate, terminated by a vesicle (4).

Head nutant, collar distinct. Eyes small but prominent, emarginate on the inside. Thorax cylindrical, the sides sometimes incised. Scutellum minute. Coleoptera elongate-ovate, much broader than the thorax. Wings ample. Legs rather robust. Thighs incrassated. Tibiæ curved, simple. Tarsi 4-jointed, cushioned beneath, 2 basal joints obtrigonal, 3rd bilobed, 4th long clavate. Claws simple bent and acute (5).

PUNCTICOLLIS Spence MSS.—Curtis's Guide, Genus 420. n. 3.

Cyaneous, shining. *Antennæ* dull black, excepting the basal joint. Eyes deeply emarginate. Head punctured, with a channel on the back part. Thorax incised and punctured, excepting a narrow elevated space in the middle, between 2 thickly punctured lines; towards the base is a transverse impression, with a large puncture in the centre. Elytra with 9 punctured striæ on each, the sutural one furcate at the base. Tarsi black.

Obs. The head and thorax sometimes have a violaceous, and the elytra a greenish tint.

In the Author's and other Cabinets.

THE larvæ of these insects are of a dirty colour, and are rendered more disgusting by being covered with their excrement, to protect them from heat and cold: they live upon the leaves of vegetables, and are frequently in great abundance, especially those of the type, which can scarcely have escaped the notice of the cultivators of the Asparagus. An interesting history of their economy is given by Latreille in the 11th volume of the *Histoire Naturelle*, p. 324; and figures of the larvæ, &c. in Roesel, vol. ii. class 3, tab. 4.

Our species may be thus arranged:—

I. Thorax incised on the sides.

1. *C. Merdigera* Linn.—*Fab.*—*Panz.* 45. 2.—*Sam.* pl. 2. f. 14.

Inhabits the white and other Lilies in the gardens of Europe, and has been imported into England with those flowers. I found it in vast abundance in every state, the beginning of last June, upon the *Lilium candidum* in the Botanic Garden at Rennes.

2. *C. puncticollis* Sp.—*Curtis Brit. Ent.* pl. 323.

This insect was discovered by Mr. Spence many years since. I have invariably found it upon Thistles in Norfolk and Suffolk; but at Bexley it is found in sand-pits from July to September. If Gyllenhal's female of *C. cyanella* be intended for this insect (and I think it is), he is mistaken; for I have taken both in pairs, and have never found the common one upon Thistles. Mr. Spence's insect is much larger, the thorax is differently formed and sculptured, and the elytra are not so deeply punctured as in the following species.

II. Thorax not incised.

3. *C. cyanella* Linn.—*Panz.* 71. 1.

Very common under the bark of Willows in Norfolk: also on grass in June, July, and August.

4. *C. obscura* Steph.

I have taken this insect twice in Norfolk.

5. *C. Melanopa* Linn.—*Panz.* 91. 12.—Middle of May, under the cliffs at Covehithe, Suffolk, and skirts of woods, July, August, and September.

6. *C. Asparagi* Linn.—*Don.* 1. 28.—*Panz.* 71. 2.—May, end of June, and September, upon the Asparagus: very common in Norfolk.

7. *C. 12-punctata* Linn.—*Panz.* 45. 3.

Found upon the Asparagus in June and July, but is very rare in England.

The plant is *Carduus acanthoides* (Wetted Thistle).



CASSIDA SALICORNIAE.

The Samphire Tortoise-Beetle.

ORDER Coleoptera. FAM. Chrysomelidæ *Lat., Leach.*

Type of the Genus Cassida viridis Fab.

CASSIDA *Linn., Fab., Lat., Marsh., &c.*

Antennæ subclavate, inserted in front of the head, between the eyes, 11-jointed, basal joint long clavate, covered by the thorax, 2nd globose, 3rd longer than the following, the last 5 being more robust and pubescent than the former, terminal joint ovate-conic (fig. 6).

Labrum naked, cordate, truncated at the base, anterior margin membranous (1).

Mandibles somewhat ovate obtuse, with three teeth (sometimes blunt) at the extremity (2).

Maxillæ small, internal lobe membranous minute, external horny pilose. *Palpi* much longer than the maxillæ, 4-jointed, basal joint minute, 2nd longer clavate, 3rd short, 4th longer pear-shaped (3). *Mentum* small. *Palpi* large, arising from two large scapes, 2-jointed, basal joint clavate, 2nd elongate-conic (4).

Head small, concealed above by the thorax. Eyes lateral. Thorax somewhat triangular. Scutellum distinct. Coleoptra shield-shaped. Wings long. Legs short, scarcely extending beyond the thorax and elytra. Tibiæ simple. Tarsi hairy, 4-jointed, basal joint small, 2nd bilobed, 3rd large bilobed, 4th not extending beyond the 3rd. Claws small (5, a fore leg).

Larvæ broad, short, depressed, with six feet, spined down the sides, tail forked recurved.

Pupæ broad, and flat, thorax very dilated, flat and serrated appendages down the sides. Reaum. vol. 3. pl. 18.

SALICORNIAE *Nobis.*

Male dull greyish ochre, finely shagreened. Thorax smooth, sparingly punctured, having a somewhat reticulated appearance, round the semi-transparent margin. Scutellum triangular, sparingly punctured. Elytra with a broad space down the suture brownish, next to which is a broad stripe of metallic green, not extending to the apex. Beneath black, a broad margin round the abdomen ochraceous. Legs entirely ochraceous. Tarsi and Claws inclining slightly to ferruginous. Antennæ ochraceous, basal and four terminal joints fuscous.

Female smaller, without the vivid green stripe upon the elytra. Skrimshire's MS.

In the Cabinets of Mr. Skrimshire and the Author.

THIS extensive genus contains some of the most brilliant exotic insects, and of the most extraordinary forms. Their economy is remarkable, and may be investigated by any one who will take the trouble to search the common thistles or horse-mint, upon which the two first species in our list feed in their larva state, and they will be amused and greatly assisted in their researches by consulting the 3rd vol. of Reaumur, the Linnean Transactions, and the Introduction to Entomology.

Our British species, as is frequently the case, cannot vie with the extra-European in brilliancy, although we possess a considerable number, most of them being either green or brown, with the exception of two or three, which when alive exhibit a most beautiful metallic appearance, which we regret cannot be done justice to in a coloured engraving.

- | | |
|---|---|
| 1 <i>C. equestris</i> F.— <i>viridis</i> Marsh., Panz. 96. 5. | 9 <i>C. vittata</i> Fab. |
| 2 <i>viridis</i> F., Panz. 96. 4.— <i>similis</i> Marsh. | 10 <i>anglica</i> nob.— <i>reticularis</i> Wilkin, Steph. |
| 3 <i>liriophora</i> Kirby, Linn. Trans. v. 3. p. 8. | 11 <i>margaritacea</i> F.— <i>mutabilis</i> Vill. t. 1. f. 1. |
| 4 <i>sanguinolenta</i> F.— <i>cruentata</i> Don. 2. 63. 2. 3. | 12 <i>Salicorniæ</i> nob. |
| 5 <i>marcida</i> Sam. Ent. Comp. | 13 <i>nobilis</i> L., Gyll., Don. 4. 138. 1. 2. 3.—var. <i>splendidula</i> Marsh. |
| 6 <i>obsoleta</i> Ill., Gyll.— <i>ferruginea</i> Marsh. | 14 <i>Spergulæ</i> Marsh.— <i>viridula</i> Payk. |
| 7 <i>nebulosa</i> L.— <i>affinis</i> F., Schæff. Ic. 27. 4. | |
| 8 <i>maculata</i> L., Don. 8. 285.— <i>murrea</i> L. | |

The most striking character in *C. Salicorniæ*, which holds in both sexes, is the totally pale thighs, which are black at the base in *C. nobilis*, and a much broader pale margin round the abdomen of the male than in that species as described by Gyllenhal, who has given the *C. splendidula* of Marsh. as a variety of *C. nobilis*, varying in the colour and form of the metallic stripe. It may be here remarked, that after death these beautiful stripes disappear, but it is stated that they may be restored by immersion in hot water; with regard to our species also, the antennæ become fuscous towards the extremity, as well as the tarsi and apex of the tibiæ.

The species we have called *C. anglica* is small, orbicular, and after death retains the pretty green colour it is possessed of when alive: under a lens it is reticulated, which gave rise to the name it has been known by hitherto in the London and Norfolk collections, but which cannot be retained, having been already employed by Fabricius for a very different species.

The Rev. T. Skrimshire kindly communicated the sexes of this beautiful insect, which died before I received them; and as I despaired of ever obtaining living specimens, the plant upon which they were found in May and June, and intended to accompany them, was published in the 119th plate; that now introduced is *Cochlearia Danica* (Danish Scurvy-grass) which I gathered this spring at Southwold, on the coast of Suffolk.



GALERUCA VIBURNI.

ORDER Coleoptera. FAM. Galerucidæ.

Type of the Genus, Chrysomela Tanacetii Linn.

GALERUCA Geof., Lat., Fab., Gyl., Sam., Curt.—Crioreris Fab., Mars.

—Auchenia Mars.—Chrysomela Linn., Forst., Mars.

Antennæ inserted at the base of the clypeus, never so long as the body, filiform and pubescent; 11-jointed, basal joint subclavate, the stoutest and rather the longest, 2nd the smallest, the remainder sometimes decreasing in length to the apex (6).

Labrum transverse, semiorbicular, scarcely indented in the centre, with a few bristles on the anterior margin (1).

Mandibles very convex externally, the inside concave and producing a large fleshy lobe, tridentate at the apex (2).

Maxillæ with an ovate lobe furnished with spines at the apex; external lobe narrower, attenuated, curved and spined at the apex (3).

Mentum trigonate, truncated before. *Lip* small, suborbicular.

Palpi small attached on each side towards the middle, triarticulate, basal joint minute, 2nd subtrigonate, 3rd conical (4).

Head transverse. Eyes rather prominent. Thorax transverse, the sides more or less convex. Scutellum generally obtuse at the apex. Elytra ovate or elliptical. Wings ample. Abdomen of the female sometimes very large and extending beyond the elytra. Thighs stout. Tibiæ thickened towards the apex, which is bristly. Tarsi broad and cushioned beneath, 5-jointed, 1st and 2nd joints obtrigonate, the former the longest, 3rd bilobed, 4th very minute and indistinct, 5th slender clavate. Claws small, acute and simple (5, a fore leg).

Larva somewhat lanceolate, composed of many annulations, spined and brown, with 6 pectoral feet. Pupa ochreous. Roesel v. 2. Class 3. t. 5.

VIBURNI Payk.—Mars. 224. 13.—Curt. Guide, G. 424. 4.

Pale castaneous, densely clothed with short, depressed shining griseous hair, and minutely and thickly punctured: antennæ black, excepting the base of each joint: eyes and a rhombiform spot in front of the head black: thorax broader than the head, a depressed channel down the centre and the margins brown: elytra convex and much broader than the thorax: scutellum and shoulders brown: tibiæ with the external edge and the tarsi brown.

In the Author's and other Cabinets.

THE obconic joints of the antennæ distinguish the Galerucæ from Adimonia and Luperus, and the 3rd joint is as long as the succeeding ones.

The following are British species.

1. *G. Tanaceti* Linn.—Panz. 102. 2.—Sam. pl. 2. f. 13.

A common species inhabiting the north and south of England. It is found in May, June, September, and October, in chalk-pits, and on sand-hills near the sea; it sometimes frequents the ears of barley. Mr. R. Wood, of Manchester, sent me some curious brown varieties from the garden of Thomas Hall, Esq., of Stafford.

2. *G. rustica* Fab.—Panz. 102. 1.

June and 18th July Whittlesea Mere, on plants in meadows.

3. *G. Cratægi* Forst.—Mars. 228. 23.—*sanguinea* Panz. 102. 8.
May, whitethorn-bushes.

4. *G. Viburni* Pk.—Curt. Brit. Ent. pl. 371.

The breadth and convexity of this species distinguish it from the following, and the black stripe on the tibiæ is a valuable character, but unnoticed.

June, sandy places, Bexley. Dry woods near Swansea, L. W. Dillwyn, Esq. Middlemarsh woods, middle of August, J. C. Dale, Esq. It is said to be found upon the Guelder Rose (*Viburnum Opulus*).

5. *G. Capreæ* Linn.—Panz. 102. 7.

May, June, and end of August, on Willows, Alders, and aquatic plants.

6. *G. Nymphææ* Linn.—Panz. 102. 6.—The *G. marginalis* of my "Guide" is a variety only.

May and June, aquatic plants.

7. *G. Sagittariæ* Gyll. Ins. Suec. 3. 511. 8.

Inhabits the common Arrow-head (*Sagittaria sagittifolia*), and other aquatic plants. Gyll.

8. *G. Calmariensis* Linn.—Lythri Gyll.

May and beginning of June, on *Lythrum Salicaria* (pl. 289), and other aquatic plants.

9. *G. lineola* Fab.—Panz. 102. 5.

On Willows and aquatic plants, common.

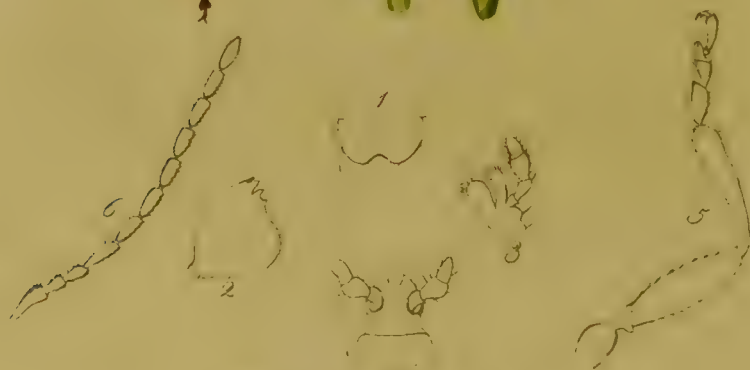
10. *G. xanthomelæna* Schr. ? — *Calmariensis* Fab.—Lat.—Gyl. 3. 508. 6.

Feeds on the leaves of Elm-trees. Gyll.

11. *G. tenella* Linn.—Panz. 102. 9.

Marshes, on Alders and Willows, in July.

The Plant is *Veronica serpyllifolia* (Smooth Speedwell).



Chrysomelidae: Anthrenus

ADIMONIA QUADRIMACULATA.

ORDER Coleoptera. FAM. Galerucidæ.

Type of the Genus, Chrysomela halensis Linn.

ADIMONIA Schr., Sam., Curt.—Galeruca Lat., Fab., Gyl.—Crioceris Fab., Panz.—Auchenia Marsh.—Chrysomela Linn., Marsh.

Antennæ inserted between the eyes, approximating, not so long as the body, filiform, 11-jointed, pubescent, excepting the 3 first joints, and pilose, basal and 4th joints the longest, the former the stoutest, clavate, 2nd and 3rd the shortest, 4th a little longer than the following, somewhat elongate-obconic, terminal joint not longer than the penultimate, conical (6).

Labrum semiorbicular, deeply notched, with a few short bristles in front and a long one on each side (1).

Mandibles subtrigonal, convex, one having 3, the other 4 teeth at the apex; internal margin ciliated (2).

Maxillæ short, terminated by two distinct lobes, the internal one densely ciliated with short bristles at the apex, twice as broad as the external lobe, which is furnished at the apex with a few long bristles. *Palpi* rather stout, 4-jointed, basal joint small, 2nd longer subtrapezate, 3rd the largest, pilose, pyriform-truncate, 4th not larger than the 2nd, conical (3).

Mentum transverse. *Lip* thick fleshy and rounded. *Palpi* short, considerably smaller than the maxillary, remote triarticulate, basal joint short, 2nd robust somewhat trigonal-globose pilose, 3rd smaller conical (4).

Head short and small. Eyes rather prominent. Thorax transverse, broader than the head, sides with a narrow margin. Scutellum trigonal. Elytra considerably broader than the thorax and rounded at the apex. Wings ample. Abdomen large in the females. Thighs alike. Tibiæ simple. Tarsi densely clothed with pile beneath, 5-jointed, basal joint long, elongate-obtrigonal, 3rd bilobed, 4th minute, 5th nearly as long as the basal joint, clavate. Claws small and acute (5).

QUADRIMACULATA Linn. Faun. Suec. 173. 571.—Curtis's Guide, Gen. 425. 3.

Smooth shining, bright ochreous: antennæ and legs pubescent: eyes and base of the head black, with a strong longitudinal groove: thorax with a transverse impression at the base, and an indistinct fovea on each side: elytra irregularly punctured, with 2 black spots at the base, and 2 beyond the middle, much larger, sometimes extending nearly to the apex: postpectus and abdomen black: antennæ towards their extremities, and the tarsi sometimes dusky.

In the Author's and other Cabinets.

THIS little group seems to connect *Galeruca* and *Luperus*, and as the three species which it comprises associate remarkably well, I think they ought to be separated from *Galeruca*, although they are at present included in that genus by Latreille. The *Adimoniæ* are distinguished by the shortness and nearly equal length of the 2nd and 3rd joints of the antennæ, by a narrower thorax, a triangular scutellum, and a differently formed labrum.

I shall describe our British species.

1. *A. Alni* *Linn. F. S.* 511.—*Marsh.* 172. 7.—*Panz.* 102. 3.
 $3\frac{1}{3}$ lines long. Much broader than the following: violaceous or deep blue, punctured: antennæ and eyes black: head with a small deep fovea in front: thorax short, rather broadest at the base: elytra broad and large, finely and thickly punctured: legs blackish.

This Insect is very rare in England, although abundant in Sweden and I believe also in France. It feeds on the leaves of the Alder, and is supposed to have been found in May.

2. *A. halensis* *Linn. Syst. Nat.* 2. 589. 20.—*Marsh.* 177. 18.
—*nigricornis* *Fab.*—*Panz.* 91. 9.
3 lines long. Smooth, shining, ochreous, irregularly punctured: antennæ and eyes black; a puncture or short groove in the middle of the face; the base of the head green: thorax short, with an impression down the middle and a distinct fovea on each side, also a black or violaceous spot on each side beneath: scutellum black: elytra bright green, sometimes blue and strongly punctured: tarsi and tips of tibiæ blackish.

This beautiful insect is sometimes very abundant, and is found upon the furze, grass, &c. in hedges, meadows, and on heaths, from the end of July to the end of October.

3. *A. 4-maculata* *Linn.*—*Curtis B. E. pl.* 366.—*bimaculata* *Panz.* 48. 16, but I never saw a specimen with the antennæ so short.

This fine species was I believe first discovered by Miss Hill, near Richmond; it was afterwards taken by the late Mr. Scales at Halvergate in Norfolk, and I took it in company with Mr. Dale at Whittlesea Mere. It inhabits rushes and other aquatic plants in ditches from the end of June to the middle of July.

The Plant is *Allium ursinum* (Ransons).



LUPERUS BRASSICÆ.

ORDER Coleoptera. FAM. Galerucidæ.

Type of the Genus, Chrysomela flavipes Linn.

LUPERUS Geof., Oliv., Lat., Sam., Curt.—Altica Panz.—Crioceris Fab., Panz., Mars.—Auchenia Mars.—Galleruca Gyl.—Chrysomela Linn.

Antennæ approximating, inserted in the centre of the face, as long as the body in the female, longer in the male, filiform, pubescent, 11-jointed, basal joint robust, 2nd short, 3rd not much longer than the 2nd, 4th and remainder very long, slightly enlarged at the apex, the terminal joint acute (6).

Labrum transverse, anterior angles rounded, producing a few bristles, with a small lobe in the centre (1).

Mandibles subtrigonal, external margin convex, acute at the apex, with a small tooth below, the internal margin membranous and pubescent (2).

Maxillæ with a large oval internal lobe, having a dense brush of curved hair at the apex: external lobe narrower, obtuse, producing a few bristles at the apex. *Palpi* rather stout and 4-jointed, basal joint small, 2nd trapezate, 3rd the largest subclavate-truncate, 4th conical and pilose (3).

Mentum small subquadrate, the anterior margin and the sides concave. *Lip* comparatively large, oval and fleshy. *Palpi* inserted on each side of the lip towards the middle, short triarticulate, basal joint very minute, 2nd stout obconic, 3rd smaller subovate (4).

Males smaller than the females. Head nearly or quite as broad as the thorax. Eyes rather prominent. Thorax slightly transverse, the sides rounded. Scutellum minute. Elytra elliptical. Wings ample. Thighs equally thick. Tibiæ simple, hinder slightly curved. Tarsi rather long, very pubescent beneath and 4-jointed, basal joint much longer than the 2nd, except in the anterior pair, 3rd joint bilobed, 4th clavate. Claws bent and acute, with a tooth near the base (5, a fore leg).

Obs. the dissections and characters are from *L. rufipes*.

BRASSICÆ Panz. 21. 18.—Curtis's Guide, Gen. 426. 3.—suturella Ill. —circumfusa Mars.—Spartii Ent. Heft.

Black, shining: antennæ not much longer in the male than female, 2nd and 3rd joints nearly of equal length, the 3 basal joints ochreous: thorax with the anterior portion ochreous, forming 3 lobes: elytra sparingly and faintly punctured, with a broad, pale ochreous stripe on each: 4 anterior legs with the tibiæ and the tips of the thighs dull ochreous.

In the Author's and other Cabinets.

THESE insects considerably resemble the *Halticæ* in habit, particularly in their long and slender antennæ, but the posterior thighs are not incrassated. They are also nearly related to the *Adimoniæ* (pl. 366); but besides essential differences in the structure of the labrum and mandibles, the joints of the antennæ, especially of the males, are greatly elongated, with the exception of the 3 basal joints, the 2nd also is generally shorter than the 3rd.

This little genus contains 3 British species.

1. *L. rufipes* *Fab. Ent. Syst. v. 1. pars 2. p. 10. n. 39.*—*Panz.*

32. 5.—*longicornis* *Fab. mas.*—*flavipes* var. *Payk.*

2 lines to $2\frac{1}{2}$ long. Bluish black, shining: antennæ very long in the male, fuscous, 3 or 4 basal joints ochreous: elytra thickly and minutely punctured: legs ochraceous, 4 posterior thighs black at the base, and sometimes the anterior also.

Found in May, on Hazels, &c.: beginning of June, Oaks Parley Copse and New Forest; end of June and beginning of July on the underside of the leaves of Sallows: also near Swansea.

2. *L. flavipes* *Linn. S. N. 2. 601. 106.*—*Panz. 32. 4.*

$1\frac{1}{2}$ line to $2\frac{1}{4}$ long. Blue black, shining: antennæ fuscous, the 3 basal joints generally ochreous: thorax ochraceous: elytra faintly, but thickly punctured: legs ochreous, base of the thighs and tips of the tarsi piceous.

Found in damp woods, on bushes; Shooter's Hill; end of June and beginning of July, feeding on the underside of hazel leaves, Ambleside; also near Swansea.

3. *L. Brassicæ* *Panz.*—*Curt. Brit. Ent. pl. 370.*

Panzer having published this insect in 1795, I have adopted his name. Taken by Mr. Wailes near Newcastle; on a furze-bush in Norfolk; and Mr. Millard used to find it near Bristol on the same plant; by Mr. Dale on Parley Heath and Copse, and near Stafford, Dorset; near Swansea, by Mr. Dillwyn. It is found from the middle of June to the middle of August.

I discovered a pretty species in July, 1830, upon grass at the summit of the Puy de Dome, in Auvergne; and as I think that it may occur on some of our Welsh mountains I shall describe it, lest it should be overlooked: at a considerably less elevation I took the *Chrysomela cerealis*, which has been found on Snowdon.

L. montanus *Curt. MSS.*— $1\frac{1}{2}$ line long. Green shining: antennæ fuscous, 3 basal joints ochreous: thorax ochreous: elytra thickly and strongly punctured: legs, including the coxæ, entirely bright ochre.

The Plant is *Orchis Morio* (Meadow Orchis).



ALTICA OCHRIPES.

ORDER Coleoptera. FAM. Chrysomelidæ.—Galerucitæ *Lat.*

Type of the Genus, Chrysomela Nemorum Linn.

ALTICA *Geoff., Oliv., Ill., Lat.*—Haltica *Gyll., Curt.*—Saltatrices *Ill.*

Antennæ inserted a little before the eyes, on each side the clypeus, rather shorter than the insect, filiform, compressed, pubescent, 11-jointed, basal joint elongate-clavate, curved, 2nd globose, 3rd cup-shaped, 4th dilated very large, the remainder oblong, slightly increasing in length, the apical joint being nearly as long as the 1st (6 ♂), 2nd and 3rd joints ovate in the female, the remainder considerably elongated, especially the 4th. *Labrum* large transverse, a little narrowed before, the anterior margin slightly emarginate, with a few short bristles (1).

Mandibles semilunate, one terminated by 3, the other by 4 sharp teeth, the 2nd being the longest, the lower one the smallest (2).

Maxille small, terminated by 2 lobes, densely ciliated at the apex, the inner one suborbicular, the outer one clavate, being an articulated subovate lobe. *Palpi* moderately long and stout, 4-jointed, basal joint small, 2nd a little the longest, clavate, truncated obliquely, 3rd nearly as long, broader at the apex, rhomboidal, 4th stout and conical (3).

Mentum suborbicular, the basal angles produced. *Labium* subovate, horny and truncated at the base with a leathery margin in front, the sides excavated to receive the *Palpi*, which are very short stout and triarticulate, basal joint cup-shaped, 2nd rhomboidal, 3rd slender, pear-shaped (4).

Head suborbicular : eyes lateral, globose, prominent and not touching the Thorax which is not broad yet transverse : scutell minute. Elytra broader than the thorax, elliptical : wings ample. Legs, hinder rather the longest and formed for leaping, the thighs being incrassated : tibiæ clavate, hinder pectinated externally towards the apex : tarsi not so long as the tibiæ, attached to the apex, very pubescent beneath, 4-jointed, basal joint obtrigonal, elongated in the hinder pair, 2nd joint shorter, 3rd bilobed, 4th slender clavate (5 †).

Obs. The species dissected and described is *A. antennata* ♂.

OCHRIPES *Curt. Guide, Gen. 427. 4.*

Black, shining, thickly punctured ; antennæ with the 3 basal joints ochreous in the male, the 4th and 5th black, the latter incrassated, the remainder ochreous-brown, sometimes black ; entirely ochreous in the female, brightest at the base, the 5th joint elongated (6 ♀) : elytra with a broad ochreous stripe on each, not reaching the apex, with a large subtrigonal black space on the outer margin, rarely passing through and forming a black bar across the middle : legs bright ochre, hinder thighs black.

GEOFFROY, who constituted this genus, having called it *Altica*, the original spelling is retained, although *Haltica* may be considered more classical. The present is another of Illiger's groups, and contains so great a number of species that I can only give their names under the different sections.

I. Antennæ with 4th joint longer than 5th, incrassated in the male.

1. *antennata Oliv.*

II. Antennæ with the 5th joint longer than the 6th, incrassated in the male.

2. *consobrina* Curt. Like *A. Lepidii*, but very thickly and more coarsely punctate, dull green; antennæ black, 5th joint elongated, 6th small, the following broader and compressed, tarsi brown: 1 line.

3. *Brassicæ* Oliv.

4. *ochripes* Curt. Brit. Ent. pl. 630. ♂. The larger size and pale legs distinguish this pretty species from *A. Brassicæ*; it was first discovered and communicated by the Rev. S. Hey, of Ockbrook, Derbyshire.

5. *Nemorum* Linn. This is the destructive *Turnip-fly*. I regret having nothing to add from my own knowledge to the numerous statements already published regarding its æconomy, but some benefit perhaps might be derived from destroying those cruciferous plants, such as *Erysimum Alliaria* and *Cardamine pratensis* (pls. 569 and 179), to which the *Alticæ* are so strongly attached, for they grow in abundance in every hedge and meadow, and appear long before the turnips come up and attract and give support to the parents of the future swarms that are to sweep away the crops of the farmer. I believe in its perfect state that it is found all the year round, but it is very abundant in May and Sept., and not unfrequently attacks the radish and horseradish.

III. Antennæ with the 4th and 5th joints simple.

a. *Elytra finely punctate*.

* Thorax without a transverse impression.

6. *flexuosa* Mar.—*Nasturtii* Pz.?—*sinuata* Ste. var. 7. *vittata* Ste. 8. *4-pustulata* Mars.—*4-guttata* Ste. 9. *Lepidii* E. H.—*nigripes* Pz.—*lens* Thunb. 10. *elongata* Ste. 11. *obscura* Ill.—*atra* E. H. 12. *punctulata* Mar. 13. *melæna* Ill. 14. *nigroænea* Mars. 15. *Cyparissiae* E. H.

16. *herbigradus* Curt. Like *A. Euphorbiæ*, but smaller and narrower; bright shining green, punctured, antennæ and legs pale bright ochreous, the 4 apical joints of the former fuscous, posterior thighs with a pale piceous band: $\frac{2}{3}$ to $\frac{3}{4}$ line. Beginning of June, Lymington, J. C. Dale, Esq.

17. *Euphorbiæ* F.—*atrocærulea* Ste. var. 18. *cærulea* E. H.—*Hyoscyami* Pz. 19. *Pseudacori* Mar.—*violacea* E. H.

** Thorax with a faint transverse impression: basal joint of tarsi distinctly incrassated in the males.

20. *Oleracea* L. 21. *indigacea* Ill.? 22. *Erucae* Pz.

b. *Elytra imperfectly punctate-striate*. Thorax without basal impressions.

24. *ærata* Mar. 25. *striatula* Mar. 26. *fuscicornis* L.

27. *fuscipes* Pz. 28. *tripudiens* K. 29. *Rubi* F.

c. *Elytra with distinct punctured striæ*. Thorax with strong longitudinal grooves connected by a transverse channel.

31. *rufipes* L. 32. *femorata* Gyl.? 33. *nitidula* L. 34. *Helxines* L.—*fulvicornis* F.—*pulchella* Ste. 35. *cyanea* Mar.—*gaudens* K. 36. *Modeeri* L. 37. *ferruginea* Schr. 38. *flava* L.—*similis* K. 39. *affinis* E. H. 40. *Salicariæ* Pk.

The Plant is *Cardamine impatiens*, Impatient Ladies'-smock.



MACROCNEMA UNIMACULATA.

ORDER Coleoptera. FAM. Chrysomelidæ?—Galerucitæ Lat.

Type of the Genus, Chrysomela Hyoscyami Linn.

MACROCNEMA Meg.—Macronema Curt.—Altitarses Ill.—Altica Panz., Geof., Lat.—Haltica Gyl.—Chrysomela Linn.

Antennæ inserted between and close to the margin of the eyes, longer than the head and thorax, slightly clavate, pubescent, pilose and 10-jointed, basal joint curved, longer and rather stouter than the 2nd, 3rd a little the shortest, the remainder increasing in diameter and shorter than the 4th, except the apical joint, which is as long as the 1st, ovate and truncated obliquely (6).

Labrum pocket-shaped, the sides towards the base dilated and transparent, anterior margin notched and ciliated, with a little protuberance in the centre and bristles across the middle (1).

Mandibles subtrigonal, curved outside, with 4 teeth at the apex, the 2nd being the longest and largest, also a membranous and ciliated margin on the inside (2).

Maxillæ small and bilobed, internal lobe ovate, external narrow curved and articulated, both ciliated. *Palpi* short, rather stout and 4-jointed, basal joint small, the remainder bristly and of equal size, obovate, the terminal joint subconic (3).

Mentum subquadrate, the sides rounded, the anterior margin deeply concave. *Lip* attached by a broad membrane, the scapes and a lobe between them horny, the anterior margin fleshy.

Palpi short triarticulate, basal joint cup-shaped, 2nd obovate, 3rd conical with a gland at the apex (4).

Head small subtrigonal, narrowed before the eyes, and subquadrate: eyes orbicular and sublateral. Thorax trapezate: scutellum minute. Elytra considerably broader than the thorax, ovate. Wings ample. Thighs, posterior very large, somewhat ovate, grooved beneath to receive the Tibiæ, of which the posterior are rather short, compressed, dilated and hooked at the apex, with one strong triangular, and several small teeth; the Tarsi in this pair are longer than the tibiæ and inserted on the inside of them some distance from the apex, 4-jointed and ciliated beneath; the basal joint is very long and clavate, 2nd oblong, 3rd bilobed, 4th slender and clavate (†), in the others the basal joint is short, 2nd small and both obtrigonal (5).

UNIMACULATA Curt. Guide, Gen. 428. 2^a.

Deep blue, sometimes slightly inclining to violet or green: mouth and antennæ pitchy, the 3 basal joints of the latter ferruginous: head sparingly punctured: thorax very broad at the base, minutely punctured, having also numerous large punctures sparingly and irregularly distributed: elytra dilated before the middle and rather narrowed behind, the external margin concave at the middle, minutely punctured, with 11 punctured striæ on each, the sutural one short; brassy black beneath and thickly punctured: legs bright and deep ochreous, posterior thighs brassy black, excepting the tips, which are ferruginous, with a large round spot of the same colour on the inside at the base, the other thighs more or less brassy black at the base.

In the Author's and other Cabinets.

MACROCHEMA is one of Illiger's families of *Haltica*, characterized by him in the 6th Vol. of his Magazine, which I have never been able to obtain; but Gyllenhal has transcribed them into the Appendix of his 4th Vol. No mention however is made of the anomalous antennæ, which are only 10-jointed, the 2nd joint being wanting or lost between the 1st and 3rd; a character first pointed out by Mr. Haliday: it is also distinguished by the length of the posterior tarsi, which are attached in a groove on the inside, remote from the internal angle.

The following are recorded in the "Illustrations" as British species, and they have all been taken in the neighbourhood of London excepting Nos. 2, 7 and 8^a.

1. *chalconera* Ill. Mag. 1^a. *Dulcamaræ* Ent. Heft.

2. *Hyoscyami* Linn.

2^a. *unimaculata* Curt. Brit. Ent. pl. 486.—M. August, amongst grass near the sea-shore, Isle of Wight, and on *Hyoscyamus niger*, near Poole.

Linnæus probably comprehended several of our species under the name of *Hyoscyami*, and I should be inclined to consider our insect the same, if I had not examples different in shape and better answering to his description. Gyllenhal takes no notice of any rufous spot on the inside of the posterior thighs in his descriptions of *H. Hyoscyami* and *Napi*, and this latter species is only half the size of the former; and if Illiger's *H. Rapæ* has the interstices of the elytra smooth (viz. impunctate) and the posterior femora black with the base rufescent, or rufous with the apex black, as stated in the Illustrations, it cannot be his insect.

3. *Napi* Gyll. 3. 567. 36.

4. *Rapæ* Ill. Mag.

5. *chrysocephala* Linn.—*erythrocephala* Linn. var.?—*Napi* Panz. 21. 3.—M. July, Dover; Sept., gardens, Suffolk.

6. *rufilabris* Ent. Heft.

7. *brunnipes* Meg.?—Near Dover and Cambridge.

8. *nigricollis* Mar. 205. 91.—*anglica* Gmel.—*sordida* Kir. var.—May and June, nettles and hedges, Suffolk.

8^a. *marcida* Ill. Mag.—April, Southend, Essex.

9. *pivicornis* Kir.—June and July, gardens, Southend and Suffolk.

9^a. *apicalis* Ste.

10. *exoleta* Linn.?—*nigriceps* Kir.—Coombe and Oxford, amongst grass.

10^a. *pallida* Ill. Mag.—Near Southend.

36. *picina* Mars. 206. 92.—May, nettles and hedges, Mr. Samouelle. Yorkshire, Suffolk and Oxford.

36^b. *Ericæ* Ent. Heft.

The Plant is *Hyoscyamus niger* (Common Henbane).



CARDIAPUS MATHEWSII.

ORDER Coleoptera. FAM. Chrysomelidæ—Galerucitæ Lat.

Type of the Genus, Cardiapus Mathewsii Curt.

CARDIAPUS Curt.

Antennæ inserted between the eyes near the base of the clypeus, as long as the thorax, slender but slightly clavate, sparingly pilose, 11-jointed, basal joint a little the longest, oval and stout, 2nd joint much shorter and more slender elongate-ovate, 4 following of the same size but less ovate, the remainder incrassated and pubescent, 7th subobtrigonal, the 3 next ovate-truncate, the terminal joint nearly as long as the 1st and conical (6).

Labrum exerted orbicular-quadrant, the margin semitransparent and slightly emarginate, with a single bristle on each side (1).

Mandibles subtrigonal, circular outside, with 3 teeth at the apex, the apical tooth being the longest with a shoulder outside, furnished with a membranous margin on the inside (2).

Maxillæ with a large internal lobe, somewhat ovate pubescent and ciliated, the external one small and distinctly articulated, the terminal joint ovate, membranous and ciliated at the apex.

Palpi rather short naked and 4-jointed, basal joint indistinct, 2nd and 3rd somewhat rhomboidal, the latter the stoutest, 4th twice as long, cylindric and conical at the apex (3).

Mentum transverse. *Lip* subovate, base horny, apex membranous. *Palpi* attached to the sides of the lip, about the middle, short stout and triarticulate, 1st and 2nd joints subquadrate, the former twice as large as the latter, apical joint the size of the 2nd, subovate (4).

Head rather small and trigonal. Eyes prominent and remote. Thorax very convex, rounded before and projecting over the head, sides finely margined, posterior margin bisinuated, the angles obtuse, with 2 foveæ, forming a curved elevated line on each side. Scutellum concealed. Elytra linear-ovate, a little broader than the thorax. Wings ample. Legs short, 4 anterior very similar, hinder pair longer and formed for leaping. Thighs incrassated, hinder pair very large and grooved beneath. Tibiæ slightly curved, ciliated towards the apex and furnished with a small spur. Tarsi rather short and 4-jointed, very pubescent beneath, basal joint large and cordate, except in the posterior pair, 2nd joint small, 3rd broader and bilobed, 4th longer and clavate. Claws small (5, a fore leg; 5†, the hind leg).

MATHEWSII *Curtis's Guide*, Gen. 428^e. 1.

In the Cabinets of Mr. Hey and the Author.

THIS singular insect, which I at first thought belonged to the Genus *Dibolia* of Latreille, and to which I still imagine it is related, has trophi that considerably resemble those of *Cassida* (pl. 127.), which is one proof, amongst many others, of a more intimate connexion between the Cassididæ and the Galerucidæ, than is admitted, I believe, by some naturalists; and although M. Latreille has given an outline of these affinities in his *Considerations générales*, he has returned to the arrangement of his *Genera Crustaceorum* in the '*Familles Naturelles*.' Taking into consideration foreign forms, it appears to me that the Cassidæ and Halticæ are beautifully connected by the Galerucæ; and for this reason I adopted the arrangement of the Baron Dejean in my Guide.

Cardiapus seems to form the connecting link of the Halticæ and Cryptocephali, having the thick posterior thighs of the former group with the cylindrical outline of the latter, the thorax projecting over the head, and the antennæ rather long and slender. On consulting Gyllenhal's '*Insecta Succica*,' I learn that the *Haltica occultans* (which is the type of *Dibolia*, I believe,) has appendages to the posterior tibiæ; and it seems to want the two basal channels on the thorax, which are evident in our genus, and so characteristic of a great portion of the Halticæ.

The following is a description of our species.

C. Mathewsii, *Curt. Brit. Ent. pl.* 435.

Black, shining, deep blue above; head sparingly punctured: eyes and antennæ black, the latter with the tip of the basal joint, and the whole of the 2nd, 3rd, and 4th, ochreous: thorax with a faint green tint firmly and thickly punctured on the sides, nearly free from punctures before: elytra with 10 strongly punctured striæ on each, the sutural one furcate at the base: legs bright ochre, thighs black, tips of tarsi fuscous. Sometimes the upper side of the insect is brassy green.

The first specimens I saw of this little beetle, were taken by Mr. A. Mathews on a Beech-tree in Kent, in June, and others were last year captured by the Rev. Samuel Hey at Monsall Dale in Derbyshire; they were found in the thick moss that grows on the sides of the rocks. To the former gentleman (who is now at Lima) I am indebted for the specimen figured, to the latter for the one dissected.

The Plant is *Hesperis inodora* (Scentless Damewort), which I found at Bonchurch in the Isle of Wight, the locality pointed out, I believe, by Dawson Turner, Esq.



CLYTHRA TRIDENTATA.

ORDER Coleoptera. FAM. Chrysomelidæ.

*Type of the Genus, Chrysomela 4-punctata Linn.*CLYTHRA *Laich, Fab., Lat., Gyll., Curt.*—*Cryptocephalus Fab., Mars.*
—*Chrysomela Linn.*—*Melolontha Geoff.**Antennæ* not longer than the thorax, inserted before the eyes, serrated and slightly pubescent, 11-jointed, basal joint short, stout and curved at the base, 2nd small, globose, 3rd not larger, cup-shaped, the remainder large, distinctly articulated, cup-shaped or obtrigonal, being produced on the inside, terminal joint smaller, subovate (6).*Labrum* rather oblong, the angles rounded, anterior margin slightly concave and ciliated (1).*Mandibles* short stout and thick, frequently most developed in the males, furnished with 2 large teeth at the apex (2).*Maxillæ* short, terminated by an ovate lobe, ciliated on the inside, with another on the outside, a little larger and drooping.*Palpi* short and subfusiform, 4-jointed and pilose, basal joint small, the remainder short and stout, especially the 2nd which is obtrigonal, 3rd subquadrate, 4th slenderer, ovate, with a gland at the apex (3).*Mentum* small, narrowed a little at the base, the anterior angles greatly excavated to receive the *Palpi* which are short, pilose and triarticulate, basal joint sublunate, the others longer and equal, the 2nd being somewhat obovate and truncated obliquely, the 3rd elongate-ovate (4).*Head* short vertical, immersed to the eyes when at rest, face flat: eyes lateral, rather prominent and oval or orbicular. *Thorax* transverse, broadest at the base, the sides generally marginated, the base lobed in the centre: scutellum trigonal, obtuse. *Abdomen* cylindric: elytra long and elliptic: wings ample. *Legs* stout, especially in the males, in which sex the anterior are sometimes very long: thighs short: tibiæ the same length, clavate, but not spined at the apex: tarsi dilated, cushioned beneath and 4-jointed, first 2 joints obtrigonal, 3rd bilobed, 4th slender clavate: claws simple (5, a fore leg).*Larvæ* living in a pear-shaped hairy case, truncated and open at the smaller end; furnished with 6 pectoral feet (L, which is copied from *Fuessley's Archives*).TRIDENTATA *Linn.*—*Curt. Guide, Gen. 430. 1.**In the Author's and other Cabinets.*

ENGLAND is very poor in this fine genus, for in Sweden there are seven native species, and twice as many in France, but many of these are confined to the South. As the spotted species have been figured by Donovan, and there are great doubts of two others being native insects, I have preferred represent-

ing one which has not been figured in any of our works, that I am aware of.

1. *tridentata* Linn.—*Curt. B. E.* 582. ♂.—*longimana* Fab. ♂.

Male the slenderest, the mandibles large. Green, thickly and minutely punctured: 2nd and 3rd joints of antennæ and the upper side of the 1st ochreous; base of thorax bisinuated, the angles somewhat lobed: elytra ochreous: anterior legs the longest.

New Forest and Clapham Park Wood, Bedfordshire, Mr. Dale; also in Yorkshire; middle of May and middle of June flying in Coomb and Darent Woods, J. C.; it is found on the Sallow and Hazel; Mr. J. Standish has beaten it, as well as the larva, off the Birch, and he observed that the beetle has a very strong and unpleasant scent.

2. *taxicornis* Fab.—*similis* Ill.

Blue, thickly punctured; mandibles large and porrected in the males; elytra testaceous, immaculate; thorax broad, with the sides serrated, the base somewhat truncated; antennæ violaceous, elongated, compressed and serrated. *Female* with the head, thorax and legs much smaller and differently formed: 4 to 6 lines long.

This insect being an inhabitant of the South of France and Tuscany, cannot be considered as a native species: Gyllenhal has admitted that it was described by mistake in the *Faun. Suec.*

3. *longipes* Fab.?—*Leach.*—*Don.* 15. 520.

Black, pubescent: elytra orange with a black spot at the shoulder and 2 beyond the middle; antennæ short and stout, with the 2nd and base of 3rd joint orange; anterior legs very long in the males, basal joint of the tarsi very long, the following not elongated: $5\frac{1}{2}$ lines.

It lives on the Hazel, and Dr. Leach took a male the end of May 1808 by the side of the road between Exeter and Sidmouth, and a female was found in Dr. Lettsom's Collection, but these do not seem to agree exactly with Fabricius's insect.

4. *quadripunctata* Linn.—*Don.* 4. pl. 111. f. 1. 2.—*Panz.* 106. 10.

Black shining, antennæ very short, 2nd and 3rd joints and a spot over each eye orange; elytra orange-ochre, with a black spot on the shoulder and a larger irregular transverse one beyond the middle: legs nearly equal, but stoutest in the males: length $4\frac{1}{2}$ lines.

North of England; Epping and Bexley on the Oak; Darent and New Forest on the wing in a hot day, J. C.; 9th June in abundance, Mr. Dale.

5. *Hordei* Fab.

"Brassy, shining, front broad cupreous: antennæ serrated, black: head large: anterior feet elongated." *Fab.*

A variety is in the British Museum supposed to have been taken on Barley near Glasgow, but as it is known only to inhabit Barbary and Portugal, its appearance in Scotland must be regarded as accidental.

Malaxis (*Liparis* Rich.) *Loeselii* (Dwarf *Malaxis*) is another of the rarities for which this work is indebted to Dr. G. B. Jermyn of Swaffham Priors, who found it in abundance last June.



CRYPTOCEPHALUS BIPUSTULATUS.

ORDER Coleoptera. FAM. Chrysomelidæ *Lat., Leach.*

Type of the Genus Chrysomela sericea Linn.

CRYPTOCEPHALUS *Geoff., Fab., Lat., Marsh.* Chrysomela *Linn.*

Antennæ inserted between and close to the eyes, remote, almost as long as the body, simple, somewhat filiform, 11-jointed, first joint large, second and third short, fourth and fifth slender, the following cylindric, more robust. (6.)

Labrum subquadrate, coriaceous; anterior margin emarginate, in the centre ciliated. (1.)

Mandibles strongly bidentate at the apex. (2.)

Maxillæ external lobe much larger than the internal: *Palpi* 4-jointed, first joint minute, the remainder robust, last joint conic-cylindric, truncated at the apex. (3.)

Mentum coriaceous, transverse, short: *Lip* membranaceous: *Palpi* 3-jointed, first joint minute, second robust, clavate, third cylindric truncated. (4.)

Head vertical, forced into the thorax up to the eyes. Eyes sub-reniform. Thorax globose, nearly as broad as the elytra. Body short, ovate, cylindric. Tibiæ without spurs. Tarsi 4-jointed, three first joints spongy beneath, first and second obtrigonal, third subcordate, bilobed, fourth cylindric. (5. a fore-leg.)

BIPUSTULATUS *Fab. Ent. Syst. t. 1. pars 2. p. 67. n. 74.—dispar Payk. Fa. Su. v. 2. p. 142. n. 15. var. ε.*

Black, shining; apex of elytra ochraceous, the edges black. Head and apex of abdomen punctured, hairy. Thorax perfectly smooth. Elytra with eleven punctured striæ upon each. Antennæ fuscous at their base. Legs and under side pubescent.

In the Cabinet of Mr. Dale.

NOTHING can prove more completely the rapid progress of Entomology in this country than the extensive additions that have been made to this beautiful Genus within the last twelve years, amongst the most splendid of which is *C. bipustulatus*, a single specimen having been captured by Mr. Dale near a coppice on Parley Heath, Dorset, 1st July 1823.

Marshall in his *Entomologia Britannica* enumerates twelve species only of the true *Cryptocephali*; and now there are the following:

- | | |
|---------------------------------|---------------------------------|
| 1. <i>C. sexpunctatus</i> Linn. | 11. <i>C. Barbareæ</i> Linn. |
| 2. — <i>Coryli</i> Linn. | 12. — <i>pusillus</i> Fab. |
| 3. — <i>bipustulatus</i> Fab. | 13. — <i>marginellus</i> Don. |
| 4. — <i>lineola</i> Fab. | 14. — <i>dorsalis</i> Marsh. |
| 5. — <i>Moræi</i> Linn. | 15. — <i>frontalis</i> Marsh. |
| 6. — <i>sericeus</i> Linn. | 16. — <i>exilis</i> Schüp. MSS. |
| 7. — <i>similis</i> Leach. | 17. — <i>ochraceus</i> nob. |
| 8. — <i>nitens</i> Linn. | 18. — <i>bilineatus</i> Linn. |
| 9. — <i>flavilabris</i> Fab. | 19. — <i>labiatus</i> Linn. |
| 10. — <i>punctiger</i> Payk. | |

C. marginellus, *dorsalis* and *frontalis*, it is generally thought are mere varieties of *C. pusillus*, varying in different degrees from testaceous to black; and Dr. Leach has lately sent from Devonshire to the British Museum, either another curious variety or a distinct species, black with a testaceous transverse band near the base of the elytræ.

Mr. Dale having swept his insect off Heath growing upon a bank, *Erica cinerea* (Fine-leaved Heath) is figured in the plate. It is said also by Fabricius to inhabit a very old garden flower *Chrysanthemum coronarium*.



HELODES BECCABUNGÆ.

ORDER Coleoptera.

FAM. Chrysomelidæ.

*Type of the Genus, Chrysomela Phellandrii Linn.*HELODES Payk., *Fab.*, *Oliv.*, *Gyl.*, *Curt.*—Prasocuris Lat.—Crioceris Panz.—Chrysomela Linn., *Marsh.*

Antennæ inserted on each side the head before the eyes, as long as the thorax, clavate and compressed at the apex, 11-jointed, basal joint a little the longest, stout and subovate, 2nd the smallest, subovate, 3 following nearly as long as the 1st sub-clavate, 6th not larger than the 2nd, the remainder forming an elongated pilose and distinctly articulated club, 7th joint sub-trigonal, 3 following cup-shaped, terminal joint the broadest, ovate-conic (6).

Labrum transverse, the sides rounded, the anterior margin thickened and ciliated (1).

Mandibles broad, very convex outside, bifid at the apex, one sub-trifid with a broad membranous margin on the inside (2).

Maxillæ short and terminated by 2 lobes of equal size, the internal one rather broadest at the apex with a series of 4 or 5 strong teeth on the inside, external lobe ovate and pubescent at the apex. *Palpi* short, thickest at the middle, basal joint the smallest subtrigonal, 2nd a little the largest and cup-shaped as well as the 3rd; 4th the longest ovate-conic, with a small gland at the apex (3).

Mentum small short and transverse. *Labium* large thick and suborbicular. *Palpi* very short stout and biarticulate, basal joint cup-shaped, 2nd ovate-conic (4).

Head suborbicular: eyes lateral, vertically ovate, not touching the Thorax, which is considerably broader than the head and quadrate: scutellum rather small. Elytra elliptical and a little broader than the thorax. Wings not large. Legs rather short and alike; thighs rather stout; tibiæ slightly clavate; tarsi cushioned beneath, 5-jointed? 1st and 2nd joints subtrigonal, 3rd cordate, 4th minute, 5th long and clavate: claws short and stout (5).

BECCABUNGÆ Payk.—*Curt. Guide, Gen. 432. 2.*—violacea *Fab.**In the Author's and other Cabinets.*

THE rather irregular form of the joints composing the club of the antennæ, the quadrate thorax with its sides simple, and the elongated narrow elytra, distinguish *Helodes* from its congeners. What I have considered as the 4th joint of the tarsus is minute and indistinct, and probably may be only the base of the apical joint narrowed and rounded, similarly to the basal joint of all antennæ.

Dejean records only 2 species, both of which are inhabitant of Great Britain.

1. *H. Phellandrii* Linn.—Panz. fasc. 83. No. 9.—*calmariensis* Don. Brit. Ins. v. 6. pl. 185. f. 1.

Length from $2\frac{1}{3}$ to 3 lines.

Brassy black, head and thorax strongly punctured, the latter rather sparingly, with the lateral margins bright ochre: elytra with the external margin and a stripe down the middle of each, of the same colour; 10 rows of strong punctures on each, the sutural one abbreviated; apex of the abdomen, base of thighs and the tibiæ, excepting the base and apex, deep and bright ochre.

Obs. In living specimens the ochreous parts are yellow.

This insect is found all the year round; it is common in Norfolk on the *Phellandrium aquaticum* and *Caltha palustris* (pl. 224.). Mr. Samouelle states that it is found on the Cow-Parsnip in May and June, and Mr. Dillwyn says it occurs near Swansea “on plants in bogs and marshy places common.”

2. *H. Beccabungæ* Payk.—Curt. Brit. Ent. pl. 506.—Panz. 25. 11.

Intense blue, often with a violaceous tint, especially on the elytra, eyes and club of antennæ blackish, head and thorax sparingly but strongly punctured; elytra finely wrinkled transversely, with 10 punctured striæ on each, the sutural one not reaching the middle.

Donovan having represented the other species, and there being no figure of *H. Beccabungæ* in any British work that I am aware of, this species is given in our plate.

This insect is much attached to the *Veronica Beccabunga* (pl. 236.) and is very common in Norfolk in May and the beginning of June. I once took several specimens on a tall umbellate plant (I believe the *Phellandrium*) in a brook near Ventnor at the back of the Isle of Wight. It is also “common on plants in marshy places” near Swansea, L. W. Dillwyn, Esq.

The Plant is *Hippuris vulgaris* (Mare’s tail), on which I found vast numbers of a little black larva, that I think belong to the *Chrysomela Betulæ* or some of the species forming the group now named *Phædon*.

CHRYSOMELA ADONIDIS.

ORDER Coleoptera. FAM. Chrysomelidæ *Lat., Leach.*

Type of the Genus Chrysomela Hæmoptera Linn.

CHRYSOMELA *Linn., Fab., Lat., &c.*

Antennæ inserted close to the anterior margin of the eyes, subclavate, hairy and pubescent towards the apex, 11-jointed; 1st joint robust, 2nd subglobose, 3rd subclavate, longer than the 4th, 5th, and 6th, which are more robust, the remainder of equal size, turbinate, pedicled, the terminal one conical (6).

Labrum transverse, slightly emarginate and hairy, angles rounded (1).

Mandibles small concave, subtrigonal acute, bifid at the apex, one having a tooth on the internal edge (2).

Maxillæ bilobed, ciliated with strong bristles, the internal lobe with 3 moveable claws at the apex. *Palpi* very robust, pilose, 4-jointed, 1st joint small, 2nd and 3rd of equal size, clavate-truncate, 4th subglobose truncate (3).

Mentum transverse. *Labium* pentagonal, slightly emarginate and pilose in front. *Palpi* short, robust, pilose, 3-jointed, basal joint transverse, 2nd large subglobose, 3rd ovate truncate (4).

Head rather small, nutant. Eyes small. Thorax transverse, narrowed and emarginate before, posterior margin angulated. Sternum not produced (9). Scutellum distinct. Body hemispheric. Wings 2. Legs rather short. *Tibiæ* simple. *Tarsi* 4-jointed, first 3 joints spongy beneath, basal and 2nd joints cordate, the latter being short, 3rd broad bilobed, 4th long subclavate. Claws simple (5* a *lusus naturæ*; a, the femur; bb', *tibiæ*; c, the tarsus; c', basal joint of tarsus).

ADONIDIS *Fab. Ent. Syst. v. 1. pars 1. p. 312. n. 23.*

Oval, ochraceous. Mouth, clypeus, eyes, antennæ, legs and under-side black. Thorax minutely punctured, sides not incrassated; a large space down the centre dilated behind and a small spot on each side near the margin black. Scutellum smooth, shining black. Elytra margined somewhat irregularly punctured, a stripe down the suture, interrupted at the base, and a broad one parallel to and near the margin of each elytron piceous black.

In the Cabinet of the British Museum.

CHRYSOMELA is one of our most extensive genera, containing upwards of 40 British species, some of which are extremely

beautiful, and many of them much esteemed for their rarity, amongst which the following may be enumerated:

I. Thorax with the sides simple.

Chrysomela Adonidis *Fab., Nob.*

geminata *Payk.: quinquejugis* *Marsh.*

fulgida *Fab. Syst. Eleut.*

fastuosa *Linn., Don. 6. 194.*

Viminalis *Linn., Panz. 78. 3: 10-punctata* *Marsh.*

rufipes *Payk.: 10-notata* *Marsh., Don. 11. 373. 1. 1.*

II. Thorax with the sides incrassated.

Chrysomela incrassata *Marsh.: Lamina* *Fab., Panz. 44. 5.*

lepida *Brit. Mus.*

limbata *Fab., Panz. 16. 8.*

marginata *Linn., Panz. 16. 11.*

lurida *Linn., Panz. 78. 1.*

Mr. Samouelle informs me, that the rare species figured was presented with some others to the British Museum by Dr. Leach, who received it from a gentleman in Lincolnshire, by whom it was taken.

The extraordinary monstrosity figured in the plate (5*) has been introduced in consequence of its having been alluded to in the valuable volumes of the *Introduction to Entomology* lately published, where it is stated to be one of the most remarkable instances of the kind that has fallen under the observation of the authors. The specimen of *C. hæmoptera* L. exhibiting this singular conformation, I took amongst a multitude of others many years since upon the *Senecio Jacobæa*; and from the symmetry of the insect not being affected, its peculiarity of structure did not attract my attention until after it was dead. The apex of the femur of one of the hinder legs is lengthened obliquely, to the internal extremity of which the supernumerary tibia is attached; it appears to have been moveable: the basal joint of the tarsus is remaining, and from its having a cavity for the reception of the following joint, there is no doubt but the remainder have been broken off by some accident. It is not our intention to enlarge further upon the subject; we only hope that a fact so curious (and rendered more remarkable from insects being unlike other animals in their organization, and undergoing 4 distinct transformations,) will be interesting if not valuable to the physiologist and comparative anatomist.

Hypnum alopecurum (Fox-tail Feather-moss) is figured in the plate.



CACIDULA SCUTELLATA.

ORDER Coleoptera. FAM. Coccinellidæ *Lat., Leach.*

Type of the Genus Chrysomela pectoralis Fab.

CACIDULA *Meg.* Chrysomela *Fab., Panz.* Strongylus *Herbst.* Silpha *Marsh.* Rhysobius *Leach's MSS.*

Antennæ as long as the thorax, inserted at the anterior margin of the eyes, remote, clavate, pilose, 11-jointed, basal joint large, 2nd small robust, 3rd long slender, 4th shorter than the 5th, the 6th, 7th and 8th oval, the remainder forming a more robust mass, the terminal joint being truncated (fig. 6).

Labrum transverse, oval, ciliated (1).

Mandibles bent at the apex and bifid, internal edge very thin and transparent (2).

Maxillæ rather long, bilobed, lobes small ciliated. *Palpi* very robust, clavate, naked, 4-jointed, basal joint minute, 2nd clavate, 3rd wedge-shaped, 4th trapezate truncated obliquely (3).

Mentum large elongated, dilated and angulated anteriorly. *Labium* suborbicular. *Palpi* short, robust, naked, inserted upon the lip, 3-jointed, basal joint minute, 2nd subclavate, 3rd ovate-conic (4).

Head trigonate, sunk up to the eyes. Eyes lateral. Thorax transverse, convex, rounded behind, posterior angles not rounded. Coleoptera oval. Wings 2, longer than the elytra. Scutellum minute. Tibiæ simple. Tarsi all 3-jointed, 2nd joint bilobed, 3rd long slender. Claws simple. Pulvilli none (5, a fore leg).

SCUTELLATA *Herbst.* *Fab. Ent. Syst. v. 1. pars 1. p. 327. n. 101.*

Yellowish castaneous, shining, clothed with short yellow hair. Head punctured. Eyes black, club of antennæ blackish. Thorax rather coarsely punctured, with a plain suture down the centre, the sides margined. Elytra rather coarsely punctured and having about 8 deeply punctured and irregular striæ on each; Scutellum, a large triangular space in the centre at the base of the elytra, a spot on each side, midway, and 2 round spots near the suture towards the apex, dull black.

In the Cabinets of Mr. Sparshall, Mr. Cooper, and the Author.

THIS genus, which has long stood in our cabinets with Dr. Leach's MS. name *Rhysobius*, has been published with the name we have adopted. The Baron Dejean has included *Nitidula litura* Fab., in which he has followed Schönherr; but it appears rather to belong to the genus *Scymnus* of Herbst.

1. *C. pectoralis* *Fab. Panz.* 78. 5.—*rosea* *Marsh.* p. 123. 25.

An insect we frequently meet with on grass and plants by the sides of ditches and on marshes during the spring and summer.

2. *C. scutellata*

Was not known to inhabit Britain until Mr. Joseph Sparshall and myself, in an entomological excursion to Horning marshes in September 1819, found several under the bark of a dead tree; but in the month of March of the present year it was taken upon a gate post in Plaistow marshes by Abraham Cooper, Esq.

This is the first example we have given of Latreille's section *Trimera*, with all the tarsi 3-jointed, it consequently associates with the family *Coccinellidæ*, an appellation that we prefer to *Aphidiphagi* recently employed in the "*Familles Naturelles*," because in forming the Linnæan genera into families we cannot do less than retain the names of that illustrious naturalist; and we cannot do better to promote the extensive and philosophic views taken of entomology at this period, than by making names long established and universally known, the stepping-stone to those which have been but recently introduced.

For a specimen of the plant figured, *Dentaria bulbifera* (Bulbiferous Coral-wort), we are indebted to Mr. G. Charlwood, who gathered it the beginning of last May at Blackwood's old locality, Harefield Park, Middlesex.



Painted by J. Guerin. Apr. 1 1820

COCCINELLA OCELLATA.

ORDER Coleoptera. FAM. Coccinellidæ Lat., Leach.

Type of the Genus Coccinella septem-punctata Linn.

COCCINELLA Linn., Fab., &c.

Antennæ inserted before the eyes at the base of the mandibles, not so long as the thorax, membranous, clavate, compressed, pubescent, 11-jointed, basal joint short, robust, cup-shaped, 2d ovate, 3d slender, not longer than the 2d, the 5 following short and filiform, the 9th broader obtrigonal, 10th transverse, 11th a little larger than the basal joint, subquadrate (6).

Labrum large, pilose, transverse-oval (1).

Mandibles subtrigonal, very much rounded externally, acute and bifid at the apex; membranous and ciliated internally, notched towards the base, one producing an elongated tooth (2).

Maxillæ large, terminated by 2 very pubescent lobes, the external one being articulated and extending beyond the other.

Palpi nearly as long as the antennæ and very robust, 4-jointed, basal joint small, truncated obliquely, 2d large, subovate-truncate, 3d subquadrate, 4th very large, subsecuriform (3).

Mentum coriaceous, subquadrate, narrowed at the base, sinuated anteriorly, the angles lobed. *Lip* elongated and membranous, except in the centre, dilated and pubescent anteriorly. *Palpi* arising beyond the middle, neither remote nor long, triarticulate, basal joint small, 2d and 3d of equal length, the former the most robust, the latter ovate (4).

Head and eyes small. Thorax transverse, broadest at the base, anteriorly emarginate, rounded behind. Scutellum very minute. Elytra hemispherical, broader than the thorax. Wings very ample, sometimes twice as long as the elytra. Legs short. Tibiæ spurred, excepting the anterior pair. Tarsi all 4-jointed, 1st and 2d joints dilated and cushioned beneath, the former long, the latter shorter, depressed obovate, 3d small, slender, arising from the back of the 2d near the base, 4th as long as the 1st clavate. Claws dilated at the base and notched internally. Pulvilli none (5, a fore leg).

OCELLATA Linn. Faun. Suec. p. 156. n. 484.

Subhemispherical, thickly and minutely punctured, shining, rufous. Head and thorax black, with 2 pale ochreous spots at their base, the anterior and lateral margins of the thorax of the same colour, with a black spot on each side near the posterior angles. Elytra with 9 black spots on each, ocellated with ochre, viz. 2, 3, 3 and a streak near the apex. Thighs and under side black; tibiæ piceous at their base, the apex, tarsi and antennæ dull castaneous.

In the Author's and other Cabinets.

THIS genus is at once a remarkable example of the value of structure in the combination of groups, and of the little importance of the distribution of colour when employed to distinguish species. As a genus, *Coccinella* is so natural that its appellation has never been disturbed; whereas the species composing it are so variable, that many of them have been described under a great variety of names.

In our dissertation upon *Hemerobius*, we remarked that the *Coccinellæ* were amongst the numerous insects that attack the *Aphides* and keep them within the limits prescribed by Providence: and we regret that our space will not allow of our entering upon so interesting a subject; but this want will be supplied by referring to the 1st vol. of Kirby and Spence, pages 258 or 262, to vol. 2, pages 9 and 230; to the *Entomological Transactions*; and descriptions and ample synonyms to the following British species will be found in the 4th part of Gyllenhal, and the 2nd volume of Schönherr.

- | | |
|---|---|
| 1. <i>C. lateralis</i> Fab. Panz. 24. 9.—
frontalis Payk. | punctata, and 11-notata Mar.
13-maculata Don. 12. 428. |
| 2. impustulata Ill. Gyll.—16-maculata Fab. | 14. <i>C. instabilis</i> Ill.?—10-guttata Fab.
Linn.? A variety probably
of the last. |
| 3. globosa Ill. Gyll.—24-punctata
Linn.—Don. 11. 362. 4 & 5.
impunctata Payk. Marsh. | 15. conglomerata Linn.—14-maculata Linn. |
| 4. 14-guttata Linn.—Don. 7.
243. 1. | 16. 14-pustulata Linn.—Oliv. 5.
pl. 4. f. 50. |
| 5. bis-sex-guttata Fab. Oliv. 5.
pl. 4. f. 51. | 17. 20-punctata Fab.—22-punctata
Don. 2. 39. 1. 4. |
| 6. 16-guttata Linn. | 18. 12-punctata Linn.—Oliv. 5. pl.
4. f. 53. |
| 7. oblongo-guttata Linn.—Don.
11. 362. 1. | 19. conglobata Linn. Ill. Panz.
106. 5. |
| 8. ocellata Linn. Nob. | 20. 11-punctata, tripunctata, and
9-punctata Linn.—4-maculata, and 10-punctata Fab.—
collaris Payk. |
| 9. 7-punctata Linn. Don. 2. 39. 5.
—Panz. 79. 3. | 21. hieroglyphica Linn.—flexuosa
Fab.—lineolata, sinuosa, and
sinuata Marsh. |
| 10. 5-punctata Linn.—Don. 16.
572. 1. | 22. 18-guttata Linn. Marsh. |
| 11. dispar Ill. — Pantherina and
annulata Linn. Don. 7. 243. 2.
bipunctata and 6-pustulata
Linn. Don. 2. 39. 3.—unifascia and 4-pustulata Fab.
Don. 7. 243. 3.—perforata
and 7-pustulata Mar. — 4-punctata Don. 16. 542. | 23. mutabilis Ill. Payk.—læta, lim-
bata, 5-maculata, 6-punctata
and 7-notata Fab.—Don. 11.
362. 3.—Panz. 79. 5. |
| 12. humeralis Schön. Gyll.—lunaris
Marsh. | 24. 13-punctata Linn. Don. 16.
572. 2. and 11. 362. 2.—14-punctata Don. 2. 39. 2. |
| 13. variabilis Ill. 4-punctata, 6-punctata, and 10-punctata
Linn.—margine-punctata, 8- | 25. 19-punctata Linn. |

The rare and beautiful species figured was first observed by Professor Hooker in Sept. 1813, upon the Wild Liquorice, *Astragalus glycyphyllos*, in a garden at Norwich. It was afterwards taken in other parts of Norfolk, and at Windsor in June: and Mr. John Phillips, to whom I am indebted for specimens, informed me that he captured several the end of March and beginning of April, at Stockton Common, Yorkshire, by shaking the Beech-trees; and that they were found upon the old and dead leaves.



ENDOMYCHUS COCCINEUS.

ORDER Coleoptera.

FAM. Endomychidæ.

Type of the Genus, Chrysomela coccinea Linn.

ENDOMYCHUS Payk., Fab., Lat., Gyll., Curt.—Chrysomela Linn., DeGeer.—Tenebrio Mars.

Antennæ inserted before the eyes, not very remote, longer than the thorax, clavate, pubescent, 11-jointed, basal joint not stouter than the following, clavate, 2nd short obovate, 3rd as long as the 1st, 5 following subglobose, the remainder forming a lax dilated and compressed club of equal joints, 9th and 10th subovate-trigonal, 11th ovate but rather oblique at the apex (6).

Labrum semicircular, slightly emarginate and ciliated (1).

Mandibles subtrigonal, acutely bifid at the apex, internal margin leathery, slightly hairy outside (2).

Maxillæ rather slender, terminating in two lobes very hairy at the apex, the internal one narrow, the other longer, broad, curved and maxillæform. *Palpi* short, stout, pubescent and 4-jointed, basal joint minute, 2nd the longest, clavate, 3rd stout, cup-shaped, 4th the largest, subovate and truncated obliquely (3).

Mentum transverse, emarginate before, the angles lobed. *Lip* large elongated, obovate. *Palpi* arising near the centre, short stout and biarticulate, basal joint somewhat obovate truncate, terminal one larger, pear-shaped, compressed at the apex (4).

Head *small and subtrigonal, immersed to the Eyes, which are small, lateral and orbicular.* Thorax *much broader, especially at the base, transverse, anterior angles lobed, posterior acuminate, the sides marginated:* scutellum *subtrigonal.* Elytra *twice as broad, oval and convex.* Wings *ample.* Thighs *a little incrassated:* tibiæ *simple and clavate:* tarsi *4-jointed, basal joint trigonal, 2nd bilobed, 3rd minute, 4th long and clavate:* claws *simple* (5, a fore leg).

COCCINEUS Linn.—Curt. Guide, Gen. 440. 1.

Bright scarlet, shining: head and antennæ black, apex and mouth tawny: disc of thorax and scutellum castaneous or piceous: 4 large spots on the elytra black: legs piceous, the knees and tarsi dull ferruginous.

In the Author's and other Cabinets.

THIS brilliant beetle is the only Endomychus that has been discovered. It is very similar in habit to Lycoperdina (pl. 355), yet there are many differences in the trophi, and the thorax is narrowed behind in that genus.

Neither Latreille nor any author that I can remember has characterized the Larvæ of Endomychus, and having found a considerable number of them the beginning of last May in the

plantations of my friend Philip Bennet, Esq., of Rougham Old Hall, I shall proceed to their description and history.

In pulling the bark off the decayed stump of a Fir-tree, I saw some larvæ apparently entangled in a white cottony web, which I at first thought were young glow-worms. On removing them I discovered that they were of various sizes; they moved slowly, and some of the largest seemed as if they were either dead or in a torpid state, but these proved to have been punctured by a little parasite allied to *Gnatho dispar* (Colax, pl. 166.), a great number of which afterwards hatched. The larvæ were of a dead deep chocolate colour, but ferruginous beneath, and composed of eleven segments besides the head and apical joint, which were so deflexed as to be concealed as represented in figure L, the line showing the natural size of the full-grown larva. They have 6 pectoral feet, the antennæ are short and filiform, the 1st thoracic segment is semiorbicular with an orange spot at each angle, the remainder are produced and reflexed laterally so as to form 10 hooks on each side, the 3rd, 4th, and 8th being orange-coloured, and the sides of the belly are similarly serrated. In three weeks some of these larvæ became pupæ of a deep ochreous colour, but they soon died.

Latreille says the *Endomychi* live beneath the bark of Birch-trees, and Gyllenhal states that they inhabit fungi and putrid wood, and the larvæ which I found appeared to be living amongst a thin fungus which occupies the place of the inner bark in decaying trees.

E. coccineus has been considered a rare insect in England; it occurs, however, occasionally in abundance, but it is very local: about 20 years since it was found in multitudes in Coomb-wood, in May and June, under the bark of stumps of Alders, Willows, &c.; and I once found a specimen in Suffolk in September. Holt Forest, Dorset, and Sherborne: Mr. Dale. "Not very unfrequent on the Crwmllyn sand-hills; it has also been found dead by Mr. Jeffreys among the rejectamenta of the Neath river near Briton Ferry:" Mr. Dillwyn.

For specimens of the *Orchis* (*Habenaria*) *viridis* (Green or Frog Orchis), I am indebted to Lady Blake, who gathered them at Bradfield and Barton in Suffolk: the root is shown at fig. B.





LYCOPERDINA BOVISTÆ.

ORDER Coleoptera. FAM. Endomychidæ *Lea*. Fungicolæ *Lat.*

Type of the Genus, Endomychus Bovistæ Fab.

LYCOPERDINA *Lat., Lea, Sam., Curt.*—*Endomychus Fab., Payk., Oliv., Panz.*—*Tenebrio Mars.*—*Galleruca Fab.*

Antennæ inserted between the eyes at the base of the clypeus, longer than the thorax, slightly thickened towards the apex, pubescent, 11-jointed, basal joint the longest, robust, oval, 2nd and 3rd of equal length and longer than the six following which are subglobose-truncate, the 9th being somewhat larger, 10th and 11th a little larger, the latter subobovate and truncated obliquely, the outer angle slightly produced (6).

Labrum transverse, the sides rounded, anterior margin concave and ciliated with strong bristles, except at the centre (1).

Mandibles subtrigonal, very acute, rounded externally, internal margin membranous and ciliated below the middle (2).

Maxillæ terminated by a large thin triangular lobe, covered with pubescence and scaly hairs; a horny lobe on the inside, dilated thickened and rough at the apex. *Palpi* short and rather robust, slightly pilose and 4-jointed, basal joint minute, 2nd subclavate, 3rd subquadrate, 4th oval (3).

Mentum horny, rough, narrowed at the middle, dilated before with the sides rounded. *Labium* transverse. *Palpi* remote, short and robust, inserted close to the anterior margin of the mentum, triarticulate? basal joint somewhat cup-shaped, 2nd and 3rd obovate (4).

Head subtrigonal: clypeus narrowed: eyes remote, rather prominent and granulated. Thorax subquadrate, anterior angles rounded, slightly narrowed at the base. Scutellum minute. Elytra ovate. Wings none. Legs rather short and robust: thighs abruptly clavate: tibiæ incrassated beyond the middle and very pubescent, the anterior bristly on the inside. Tarsi 4-jointed, basal and 2nd joints produced beneath and cushioned, 3rd joint small, 4th long clavate. Claws slender and acute (5).

BOVISTÆ *Fab. Ent. Syst. 1. pars 2. p. 20. n. 34.*—*Curtis's Guide, Gen. 441.*—*Lycoperdi and immaculata Lat.*

Piceous-chestnut color sometimes ochreous, smooth and shining, sparingly and minutely punctured, each puncture producing a short hair. Eyes black. Thorax with a deep channel on each side, extending to the middle and connected at the base by a transverse one. Elytra depressed at the suture with a channel on each side contiguous at the base and apex. Tibiæ clothed with ochreous pubescence, especially on the inside towards their extremity.

In the Author's and other Cabinets.

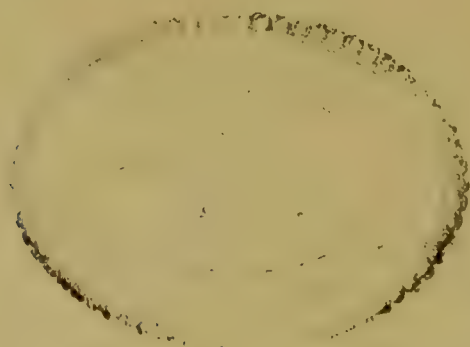
FOUR species of *Lycoperdinæ* inhabit Sweden, and two of them France ; but one only has been discovered in Great Britain, the *L. Bovistæ*, which receives its names from the vegetable on which it feeds. They are found in puff-balls, from September to June, on commons and in fir-plantations at Coombe and Norwood. The Rev. G. T. Rudd and Mr. Samouelle once met with it in abundance near Kimpton ; and the beginning of last October Mr. Newman took a considerable number at Birch-wood, and he remarked that they made their egress through the hole in the centre at the top of the puff-ball.

The horny internal maxillary lobe and the dilated and curiously ciliated external one are very different to any that I am acquainted with. *Lycoperdina*, like *Coccinella*, has four-jointed tarsi, and it is nearly related to *Endomychus* and *Eumorphus* (an extra-European group), one species of which, from Sumatra, (figured by Dumeril and also by Olivier under the name of *E. marginatus*,) is a most remarkable insect, with the anterior tibiæ emarginated, not unlike the *Carabidæ*, and the elytra have a broad dilated margin, so that in fact it assumes somewhat the figure of that still more wonderful insect the *Mormolyce phyllodes* of Hagenbach, which is a native of the neighbouring island of Java.

We do not think it probable that the œconomy of *Eumorphus* and *Mormolyce* is the same, and consequently there may be no affinity between them ; but as it is difficult in arrangement to say where such anomalies ought to be placed, we cannot but think that it would be convenient and even natural to put *Mormolyce* at the beginning of the *Coleoptera*, and *Eumorphus* at the end.

The genus *Dasycerus*, which from its triarticulate tarsi has been consigned to this group, is more nearly related I think to *Latridius* (p. 311.), which has probably only three jointed tarsi, and with which it was at first associated by Mons. Latreille.

The Puff-ball or bull-fist represented with the insect is the *Lycoperdon Bovista* Linn., in which it lives.

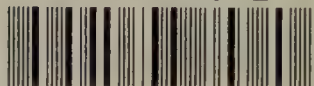


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